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The Long-Term Effects of Early Sports Selection

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Abstract

This paper examines the long-term effects of early sports selection using a regression discontinuity design. I show that Swedish track and field athletes who qualified for a one-time appearance with the junior national team at age 17 are less likely to quit sports and more likely to improve their performance. Several years later, although few make a living from sports, selected athletes have earned more college credits and are more successful on the marriage market. I show that early sports selection fosters grit and resilience, leading to lower dropout rates and positive spillovers in other areas of life.

JEL classification codes: I12, J24, L83, Z13, Z22

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I. Introduction

The importance of early interventions in human capital formation is well-established. The traditional view is that returns on human capital investments peak during childhood and diminish rapidly with age (Heckman 2006; Cunha and Heckman 2007). However, recent findings challenge this view, suggesting that the productivity of human capital investments remains stable from birth through age 25, at least to some extent (Deming 2022). In light of these findings, the literature on the long-term impacts of interventions targeting adolescents and young adults is limited. In addition, much of the existing research concentrates on curricular activities, such as interventions aimed at improving academic performance in high school (Fryer 2014; Guryan et al. 2023; Gortazar et al. 2024).

This paper, instead, focuses on of the most common extracurricular activities activities among adolescents and young adults, namely organized sports. According to the World Health Organization, participation in organized sports is of vital importance in improving long-term public health outcomes (WHO 2024). Among adolescents, those who are active in sports are more likely to adopt exercise as a long-term habit, underscoring the importance for policymakers of delaying young adults' exit from organized sports (Graham et al. 2011).

In the paper, I examine how providing adolescents competing in sports with an opportunity to represent their country—arguably one of the greatest honors a person can achieve—affects sports and non-sports outcomes. To address this question, data are drawn from the only remaining annual track and field match between two countries, namely the Sweden–Finland meeting. Dating back to the 1920s, the senior version of this event is a significant annual sports occasion in both countries, drawing substantial television audiences. There is also a junior version of the meeting, from which data on 17-year old Swedish athletes is used in this paper. While the junior version is less well-known to the general public, and not televised, it is well-suited to study the research question at hand for several reasons. First, inclusion to the junior national team is not associated with any direct financial or academic benefits for those selected; instead, it provides a significant confidence boost for athletes. This, I argue, may prolong athletes' careers and lead to positive spillovers for non-sports outcomes. Second, team selection depends on the placement in national junior championships, enabling the application of regression discontinuity (RD) designs to address identification concerns associated with self-selection into organized sports. Finally, an advantage with using track and field data more generally is that performances are easily quantified.

In terms of sports outcomes, the paper studies both the length of athletes' careers, as well as results progression. Applying a novel fuzzy RD design that uses an accelerated failure time approach to model the time until the athlete quits competing in sports, these results indicate that athletes who were selected for the national team are approximately 25% less likely to quit sports at any given time compared to their peers who marginally failed to qualify. This suggests that selection to the national team serves as a protective factor against the risk of quitting sports. If only data from 2020 is used, when the Sweden–Finland match was canceled due to the pandemic but not the Swedish junior championships, there is no significant placebo effect, providing evidence in favor of a causal effect on sports longevity from selection to the national team. In terms of long-term results progression, athletes who were selected at age 17 have long-term results that are about 5% better compared to those who marginally failed to qualify, adjusted for baseline performance levels.

While track and field is one of the most popular sports globally, track athletes are poorly paid compared to other sports professionals. For example, in Norway, where wage rates for professional athletes are similar to those in Finland and Sweden, there were only two professional track athletes whose annual income exceeded $100,000 in 2022 (Melke 2022).[1] This means that long-term non-sports outcomes are also important to consider, and many athletes pursue undergraduate or graduate studies concurrent with their sporting careers. However, in Sweden, admission to higher education is based on grades or standardized entrance exams only, therefore, being selected for the national junior team does not directly increase the chances of college admission.[2]

Still, approximately a decade following their inclusion in the national team, marginally qualified athletes earn more college credits and are more successful on the marriage market. Specifically, I show that the additional academic credits earned by those that marginally qualified corresponds to an additional 12 weeks of higher education, which is equivalent to 0.18 standard deviations. Additionally, controlling for a rich set of demographic factors, including age, gender, and socioeconomic background, those who marginally qualified are around 30% more likely to be married or cohabitating towards the end of their twenties. This suggests that there are considerable marriage market benefits from being marginally selected to the national team at age 17. However, there is no significant effect on taxable income and capital earnings.

To evaluate the mechanisms behind these results, I first explore why selection to the national team reduces dropout rates and improves non-academic outcomes. One possible channel relates to grit, a personality trait that can be developed and reinforced during adolescence. Specifically, athletes selected for the national team may be less likely to perceive challenges or setbacks as reasons to give up. This is particularly relevant in this context, as temporary setbacks have been shown to predict dropout rates from both

[1]The financial situation within track and field is similar in most other countries, including in the United States and Canada (Brown 2022).

[2]Similar to most European countries, and in contrast to the United States, youth sports in Sweden is almost exclusively organized in clubs.

sports and secondary or tertiary education (Ou 2010; Polson 2018; Schlesinger et al. 2018). In addition, grit has been positively linked to marital stability (Eskreis-Winkler et al. 2014), and grittier individuals tend to be more successful academically (Yeager and Dweck 2012; Alan et al. 2019). By studying how athletes respond to negative performance shocks later in their careers, I show that those who were selected at age 17 were significantly less likely to quit sports in response to temporary setbacks in the form of one poor year of performance. However, the positive effects on grit peter out after age 19, suggesting that the grit-enhancing mechanism is not the sole explanation for the observed positive effects of national team selection

Proceeding by examining heterogeneous effects depending on gender, I find that the lowered risk of quitting after selection to the national team is driven chiefly by female athletes. With an equal number of male and female athletes chosen for the national team, selection provides female athletes the opportunity to interact with female peers in an environment typically characterized by traditionally male attributes, such as individualism, aggressiveness, and power. Thus, a plausible mechanism underlying this result is that selection to the national team helps to dissolve some of the traditional gender norms associated with sports. This channel is consistent with recent research suggesting that increased exposure to female peers in educational settings reduces girls' conformity to traditional gender norms (Brenøe 2022; Getik and Meier 2024).

However, for the non-sports outcomes in particular, there could be other mechanisms important in explaining the positive effects associated with selection to the national team. For the positive effect on the marriage market, one such channel could be related to search frictions: selection to the national team, by prolonging athletes' careers, prolongs athletes' exposure to peers with whom they share a similar lifestyle, increasing the likelihood of forming assortative matches. Previous research has shown that college is an important venue for assortative matching, and it is likely that organized sports for young adults play a similar role (Artmann et al. 2021; Kirkebøen et al. 2021). Yet another channel is that there could be some unobserved factor positively related to motivations to engage in romantic relationships salient in the athletic environment, so that athletes and non-athletes differ with respect to their preferences for romantic relationships. Similarly, for the academic outcomes, confidence and trust in higher education institutions may be fostered in the athletic environment, which would lead to positive effects on athletes' willingness to study.[3]

To evaluate these mechanisms, I use data from a large, nationwide annual survey of the general public to which the respondents are selected randomly. The survey allows for breakdown of respondents by age and whether they are actively involved in sports. From

[3]There is mixed evidence on whether participation in sports clubs increases interpersonal trust, and thus, confidence in formal institutions; see, for instance, Hoye and Nicholson (2012) or Elmose-Østerlund and Roes (2017).

this data, we can draw two conclusions. First, young adults who are actively involved in sports are more satisfied with their lives and meet friends more often. Thus, participation in organized sports increases well-being and strengthens social ties. Second, there is no evidence that young adults who actively participate in organized sports differ in terms of preferences for romantic relationships. Returning to the register data, I combine athlete–partner dyads to show that those selected to the national team at age 17 are more likely to have partners who were also active in track and field. Taken together, these findings suggest that organized sports provide a niche dating market characterized by low search frictions and an abundance of like-minded individuals, thereby increasing the likelihood of forming a match.

Finally, the survey data indicate that young adults actively involved in sports display higher levels of trust in higher education institutions compared to their peers who are not engaged in sports. This result, however, does not extend to other formal institutions, such as the judiciary, government, or media. Thus, prolonged exposure to organized sports, in addition to enhancing individuals' cognitive abilities, may contribute to greater confidence in higher education institutions. This finding suggests an additional mechanism through which selection to the national team may improve academic performance, even though such selection has no direct impact on the probability of admission to higher education.

This paper contributes to several strands in the literature. First, there is a wide literature on the long-term effects of early selection, or "tracking", in education (Hanushek and Wößmann 2006; Duflo et al. 2011; Guyon et al. 2012; Hall 2012; Dustmann et al. 2017; Canaan 2020), with conclusions varying widely.[4] However, the setting in this paper differs somewhat from the tracking literature. This is because educational tracking usually implies that selected individuals are subjected to a more advanced education for several years after selection. In the setting studied in this paper, there is little additional gain from the one-time selection to the national team, besides the honor of being selected. In particular, since selection is not associated with any financial gains and is mostly symbolic in nature, the paper also relates to a broad literature on the impact of public praise, gifts, and nonmonetary incentives in the workplace and in education (Besley and Ghatak 2008; Rablen and Oswald 2008; Kosfeld and Neckermann 2011; Bradler et al. 2016; Gallus 2017; Hoogveld and Zubanov 2017; Cotofan 2021). These papers broadly suggest that there are positive effects of being recognized, with two important caveats: first, that being recognized by peers may lead to overconfidence, leading to negative long-term effects, and secondly, that those failing to receive recognition may be discouraged, in this case, by dropping out of sports (Bénabou and Tirole 2003; Akerlof and Kranton 2005; Bandiera et al. 2013). Interpreted in a broader labor market context, the results

[4]Most of these studies focus on early tracking, usually when the pupils are in primary school. The subjects in this paper are selected at age 17, which is still very early in an individual's sporting career.

in this paper suggest that positive praise leads to improved performance in the task, and that it may have positive spillovers outside of the workplace.

Secondly, the paper contributes to the literature on how early skill formation and early human capital investments impact later outcomes (see Hendren and Sprung-Keyser (2020) for a recent summary). A subset of these papers analyzes the impact of adolescent time allocation on long-term outcomes (Fiorini and Keane 2014; Golsteyn et al. 2014; Caetano et al. 2019; Jürges and Khanam 2021). This paper shows that selection to the national team can be an efficient nudge both in terms of increasing athlete longevity and improving long-term sports outcomes, thus driving skill formation. Related, there is a wide literature on the effects of nudges and incentives aimed at adopting a healthier lifestyle. Specifically, while several studies show that adults can be incentivized to exercise more often, any positive effects tend to be temporary (DellaVigna and Malmendier 2006; Charness and Gneezy 2009; Royer et al. 2015; Carrera et al. 2018; Fricke et al. 2018; Spika et al. 2025). However, these studies focus chiefly on financial incentives to improve sporadic exercising among the general public, such as going to the gym. In this paper, I instead examine the effects of nudging young adults who are already spending a significant share of their spare time practicing sports.

Finally, there is a broad economics literature on the non-sports outcomes of youth sports participation. Most of these studies are focused on long-term health and educational attainment of adolescents active in organized sports, with several studies finding positive health effects of individual sport participation (Lechner 2009; Cabane et al. 2016; Brechot et al. 2021). However, a methodological issue with many of these studies is self-selection bias, as it is plausible that adolescents who already have higher levels of well-being, or are more talented academically, are more likely to self-select into organized sports (see Frey and Gullo (2021) for a discussion). Recent papers address this issue by utilizing quasi-experimental variation in access to organized sports; for instance, Marcus et al. (2022) show that providing children in Germany with sports club vouchers does not lead to positive long-run health outcomes. This paper uses a RD framework to this potential endogeneity.

Moreover, in terms of academic outcomes, since sports participation is positively associated with self-discipline, social capital, and other non-cognitive skills, there are likely to be significant positive spillover effects of sports participation (Lechner and Sari 2015). Consistent with such a mechanism, there is ample evidence that the effects on academic performance from youth sports participation are at least non-negative, with some studies finding significant positive benefits (Pfeifer and Cornelißen 2010, Rees and Sabia 2010; Stevenson 2010). Besides academic outcomes, a number of studies have examined other long-term individual outcomes, finding that youth sports participation is associated with higher wages (Barron et al. 2000; Henderson et al. 2006), higher callback rates for job applications (Rooth 2011), fewer peer conflicts (Felfe et al. 2016), and that girls with greater access to organized sports have babies that are healthier at birth (Schulkind 2017).[5] Also, on a societal level, expanding sports opportunities may decrease aggregate crime rates (McNichols et al. 2024). However, others have argued that adolescents' sports participation may crowd out time spent studying and expose young adults to low-quality peers who are over-represented in terms of propensity for risky behaviors (Card and Dahl 2011; Lindo et al. 2012; Ivandić et al. 2024). In this paper, I find positive impacts from selection to the national team on individual marriage market and academic outcomes, while I find no effects on wage earnings.

The rest of the paper is structured as follows. Section II describes the setting, while Section III gives an outline of the data used. The empirical framework is presented in Section IV, which also provides the main results. Section V discusses potential mechanisms. The paper concludes with Section VI.

II. The Sweden-Finland Track and Field Meeting

Some decades ago, two-nation meetings in track and field were common, with the USA–USSR Track and Field Dual Meet Series, held regularly between 1958 and 1985, being among the most notable. Today, the annual match between Sweden and Finland is the only remaining two-country track and field meeting in the world. It is a two-day event, normally held during the last weekend of August, or the first weekend of September, in a given year. The match has been held annually since 1953.[6] In both countries, the match is among the most-watched annual sporting events.[7] Each nation nominates three athletes per event, with the winner awarded 7 points for his or her country, followed by 5 points for the nation of the second-placed athlete, 4 points for the third-placed, and so on. Eventually, one country wins the men's match, and one wins the women's match. Historically, Finland has been more successful in the men's match, while Sweden has more titles in the women's match.

In 1970, the match was complemented with a similar event for U18 athletes, that is, for athletes aged 16 or 17. The junior match takes placed during the same weekend, but before noon. The rules are similar to the senior match, with the exception that the

[5] Many of these conclusions also hold for membership in other social organizations for young adults, such as college fraternities (Even and Smith 2022).

[6] The first match was arranged in 1925, and was supposed to be organized biannually. However, the 1932–38 and 1941–44 editions were canceled due to conflicts between the two sports federations (partially triggered by a fist fight between athletes in the 1931 edition), and World War II, respectively.

[7] For example, the 2019 edition was watched by an estimated one million people per day in Finland only, a country with around 5.5 million inhabitants (Simonsen 2019). The Swedish TV viewership figures were around 650,000 per day during the 2023 edition, although it should be noted that Sweden's population is almost twice that of Finland (Swedish Athletics Federation 2023, p. 10).

junior match only features two male and two female athletes per country and event, with points awarded 5–3–2–1. In total, there are around 80 Swedish and 80 Finnish athletes per year. Due to the significant advantage of being one year older, 17-year old athletes dominate.[8] Different from the senior match, the junior match is not shown on national television. Neither the senior match nor the junior match is associated with any direct economic benefits, although the senior match is likely to give exposure to sponsors due to its popularity among TV audiences.

Selection to the junior national team varies by country. In Sweden, there are separate national junior championships organized in August each year, which serve as *de facto* trials for the Finland match: one for the 16-year-olds, and one for the 17-year-olds. Since the Swedish guidelines explicitly state that a 17-year-old athlete is to be prioritized over a 16-year-old in the case of similar results, in reality, the first- and second-placed athletes in the championships for the 17-year-olds are highly likely to be selected for the national team. Different from Finland, Sweden does not allow athletes to participate in more than one event in the match. Since it is relatively common that the same athlete prevails, for instance, in the 100 and 200 meters dash at the national championships, this rule allows for some third-placed athletes at the national championships to take part in the Finland match. Similarly, a second-placed 17-year-old can be excluded from the national team if there is a 16-year-old with better results.

For many athletes, the Sweden–Finland match is the first, and only realistic, chance at experiencing competing for the national team. After age 17, participation in the national team is only through the senior Finland match, or through selection into international championships, primarily the European and World Championships, as well as the Olympics. Except for the senior Finland match, these championships are normally held biannually or quadrennially, and qualification is conditional on meeting internationally-defined entry standards. This makes it considerably more difficult to qualify for the national team after age 17.

III. Data

III.A. Register Data

For the empirical analysis, I utilize data on all Swedish athletes born between 1995 and 2000 who participated in the national junior championships when they were 17 years old, that is, between 2012 and 2017. Of particular interest are those who placed themselves around the fuzzy cutoff of 2.5 for participation in the Finland match, so for symmetry, I collect data for athletes placed 1–4 for each event. For each athlete, I track results up until 2024.

[8] As an example of this, in the 2024 match, close to three-quarters of the Swedish team was aged 17.

An advantage with using track and field data is that results levels, as well as athlete progression, are easily quantified. To compare results between different events, I use the latest edition of the so-called scoring tables, which are officially endorsed by World Athletics, the international governing body of track and field (Spiriev 2022). The tables convert each result to a numerical value between 1 and 1,400. This allows for straightforward comparison between, for instance, a men's 800 meters time and a women's high jump mark, and to draw comparisons over time. For the long-term results on sports outcomes, I use the athlete's best annual result in terms of points. All track and field competitions in Sweden need to be pre-registered digitally with the Swedish Athletics Federation, meaning that the federation's data is complete for competitions in Sweden. The Federation also tracks the results of athletes of Swedish nationality when competing abroad if the competition has an online results list. This is normally the case for track and field meetings in Western Europe and in the United States, meaning that the data covers also relatively minor international competitions.

As a measure of longevity, I calculate the number of years that the athlete has participated in track and field competitions after age 17. If the athlete was still actively competing at the time of data collection in 2024, the athlete is right-censored. I also take into account that athletes may switch events as they become older; for instance, many sprinters change to middle-distance running later in their careers.[9] Such athletes are classified as still competing, even though they have switched to a different event from the one they participated in during the Finland match.

In addition, I use register data on academic credits, taxable income, capital gains, and marriage or cohabitation. In Sweden, higher education is free of charge, and there is a tax-exempt grant approximately equal to USD 400 per month for all full-time students. This grant is given for a maximum of 240 weeks, corresponding to six years of full-time studies. Since the grant is essentially "free money", the coverage is close to 100%. There is also a low-interest loan scheme available, providing students with an additional USD 900 per month. However, as many students opt to live with their parents, taking out the loan is less common compared to the grant. In the empirical analysis, I utilize data on the number of grant weeks utilized by each student. Students who fail to pass a sufficient number of course credits become ineligible to receive further grants. Therefore, the number of grant weeks a student uses serves as a proxy for the number of credits taken at college or university. The income data is more straightforward, and encompasses the most recent figure on taxable labor income. I also use data on capital gains, which in-

[9] Age is associated with a gradual loss of force-generating capacity of the muscles, but this decline happens earlier for fast-twitch muscle fibers used in explosive events, such as sprints (Korhonen et al. 2006). Thus, many athletes change events later in their careers. A typical example of such an event change is 400 meter sprinters transitioning to 800 meters, the latter being a middle-distance event that requires more aerobic capacity, allowing athletes to rely less on fast-twitch muscle fibers.

cludes profits on all capital classes, for instances equities, bonds, funds, commodities, and property. It also includes dividends from shares, and interest payments from bonds and savings accounts.

Finally, to evaluate marriage market outcomes, I use data on marriage or cohabitation. Only a negligible share of the athletes in the sample are married, meaning that relationship status is inferred from cohabitation. In reality, since a person may have a partner with which they have not moved in yet, the share of individuals in a romantic relationship is likely to be higher than the share implied by this variable. On the other hand, a person may share an apartment with someone with whom they are not romantically linked, which would overestimate the share who are in a romantic relationship. However, there is no reason to believe that these discrepancies would differ depending on whether the athlete was selected to the national team or not. Those living together with parents or other relatives are not classified as cohabitating, nor are those living together with more than one non-relative, the latter suggesting that it is a group of friends living together. Classification into cohabitation is not conditional on the gender of the other person; however, the vast majority of cohabitating couples in the sample consist of opposite-sex dyads. Table A.1 of Online Appendix A presents the summary statistics for the variables described in this section.

III.B. Survey Data

I complement the register data with individual-level data from an annual survey, known as the *SOM survey*, which is an annual survey collected by researchers at the University of Gothenburg.[10] The SOM survey has two distinct advantages. First, the survey is distributed randomly to households, using the Swedish adult population as the sampling frame. This randomness is important for statistical inference. Second, the sample size is large, currently around 20,000 sampled individuals per year. This allows for breakdown of individual responses depending on whether the respondent is actively involved in sports or not. Several of the questions in the survey ask respondents to provide answers using a Likert scale, measuring responses on an interval scale, typically from "strongly disagree" to "strongly agree". The survey takes the form of a repeated cross-section, and we gauge data from survey waves starting in 1991 and ending in 2019.

IV. Empirical Strategy and Results

This section presents the empirical strategy and reports the main results. First, I examine the impact of national team selection on short-and long-term sports outcomes, followed by examining the long-term academic, financial, and marriage market outcomes.

[10]Shorthand for *Samhälle, Opinion, Medier*, "Society, Opinion, Media".

IV.A. Sports Longevity and Results Progression

1. *Sports Longevity*

Before proceeding with a more formal analysis, we may begin descriptively by studying the Kaplan-Meier survival functions for the selected and non-selected athletes among those placed 1–4 in the national junior championships. This is done in the top panel of Figure 1, with the failure time in this context is the time until the athlete quits competing in track and field. The difference is notable: visually, there is a clear difference between selected and non-selected athletes in terms of survival time, with the p-value for equality of the survivor functions (log-rank test) equal to 0.000. The bottom panel of Figure 1 presents similar curves for the second- and third placed athletes, which is the variation mainly utilized in the paper. Similarly, the p-value of the log-rank test for the equality of these survivor functions is 0.001, with selected athletes having significantly longer careers.

To estimate the causal effect of being selected to the national team on the risk of quitting sports more formally, we may proceed as follows. Following standard duration analysis notation, denote by C_{ic} the time to right-censoring for individual i in cohort c, and by T^*_{ic} the true time-to-event, that is, the time from the Finland match to the point that the athlete quits competing in track and field. Note that we may only observe one of T^*_{ic} and C_{ic}, which is known as the observed time-to-event,

$$T_{ic} = \min\{T^*_{ic}, C_{ic}\}$$

Now, let $Selected_{ic} \in \{0, 1\}$ be a binary variable taking the value unity if the athlete was selected to the national team, and zero else. Since placement at the national junior championships serves as the running variable, let $D_{ic} \in \{0, 1\}$ be equal to unity if the athlete came first or second at the national championships, and zero if the athlete came third or fourth. I then apply the two-stage accelerated failure time regression-discontinuity framework introduced by Adeleke et al. (2022), for which the second-stage equation is given by

$$h_{ict} = h_0 \times \exp\left(\beta\widehat{\text{Selected}}_{ic} + f() + \boldsymbol{\pi}'\boldsymbol{X}_{ict} + \tau_c\right) \tag{1}$$

for individual i from cohort c at time $t = 1 \dots T_{ic}$, where h_{ict} is the hazard function, h_0 is the baseline hazard, $\widehat{\text{Selected}}_{ic}$ is the predicted from the first-stage regression of $Selected_{ic}$ on D_{ic}, $\boldsymbol{X}_{ict}$ a vector of individual-level controls, and τ_c are cohort fixed effects. The hazard function is interpreted as the conditional probability of quitting track and field in the next time interval, given survival up to that time. It is possible to vary the baseline distribution, with the Weibull distribution used in the main estimates. In addition, the Imbens and Kalyanaraman (2012) optimal bandwidth is equal to approximately 0.6, suggesting that around the fuzzy cutoff of 2.5, only the second- and third-placed athletes should be considered, although it is straightforward to increase the bandwidth as a robustness test.

With duration data, it is natural to report the hazard ratios e^{β}, which are interpreted as the hazard of quitting for those selected to the junior national team relative to the hazard of not being selected to the junior national team. Thus, we would expect the estimated hazard ratios to be smaller than one in magnitude, since this would suggest that selection to the national team lowers the risk per year of quitting track and field. The results are presented in Table 1. Column (1) shows the results when estimating a sharp RD, that is, when using $Selected_{ic}$ directly as an independent variable. Columns (2) and (3) use the two-stage approach described previously, with column (3) including controls for gender, average parental income, and birth month. Regardless of specification, the results suggest that inclusion to the national team at age 17 has a fairly large effect on the risk of quitting sports. Inclusion to the national team decreases the hazard of quitting sports by about 25% per year when using the fuzzy model. Including covariates for gender, average parental income, and birth month in (3) changes the magnitude of the estimates only marginally. All coefficients are significantly different from unity at the 1% level.

Table A.2 of Online Appendix A performs a number of robustness checks, including applying an exponential distribution to the error terms ε_{ic}, doubling the bandwidth, and applying a Cox proportional hazards model in the second-stage instead of the accelerated failure time model. The results are robust to these changes, with the magnitude of the estimated hazard ratios changing only marginally.

2. *Long-Term Sports Outcomes*

How did selection to the national affect long-term sports outcomes? I estimate the following two-stage instrumental-variables dynamic panel model, where the first-stage is estimated analogously to (1), and the second-stage is given by

$$\text{log Points score}_{ict} = \phi \text{log Points score}_{ic,t-1} + \beta \widehat{\text{Selected}}_{ic} + f() + \boldsymbol{\gamma}' \boldsymbol{X}_{ict} + \tau_c + \varepsilon_{ict} \quad (2)$$

Here, index t refers to seasons (years), and the log points score is the athlete's best performance on the 1–1,400 scale. The mean log points score is equal to 6.81, which after taking the antilog the is equivalent to just above 900 on the 0–1400 scale. The model includes the lagged scoring point because sports results tend persistent across time periods; excluding this factor could lead to an overestimation of the selection effect. I employ the system GMM method developed by Blundell and Bond (1998) to address the endogeneity arising from the inclusion of the lagged dependent variable. The results, reported in Table 2, give outcomes without (columns 1 and 2) and with (columns 3 and 4) the lagged dependent variable. The rejection of the AR(1) test in columns (1) and (2) strongly suggests the necessity of incorporating the lagged dependent variable. The results in columns (3) and (4) suggest that being selected to the national team at age 17 improves results by just under one percent the first year. The coefficient for national team selection is significant at the 5% level. The autoregressive coefficient suggests that close to 90% of this result "premium" carries to the consecutive year. Iterating this calculation yields that the long-term effects of selection to the junior national team is given by $\frac{\widehat{\beta}}{1-\widehat{\phi}}$, so that the long-term effect from junior national team selection is estimated to be around 5.8% without when including the full set of controls. While the long-term effect appears modest in magnitude, there was about a 5% difference between the first- and fourth-placed athletes in the men's 200 meter dash at the 2024 Olympics. This suggests that even moderate improvements can significantly impact athletes' future success.

Table A.3 of Online Appendix A re-estimates the above specification using a number of variations on the dynamic panel model, including utilizing the estimator of Arellano and Bover (1995), and using the Windmeijer (2005) twostep estimator for the standard errors instead of the onestep estimator. These two robustness checks impact the coefficient estimates only marginally, and the conclusions outlined previously are robust to these changes.

IV.B. Non-Sports Outcomes

How did the athletes selected for the national team fare later in life? This section describes academic, financial, and marriage market outcomes. Specifically, I consider the effects of national team selection on three variables: the probability of being married or cohabitating, the number exhausted weeks of study aid, and taxable labor income and capital gains. The latter two variables are standardized so that their means are equal to zero, and their standard deviations are equal to unity. For each of the three outcomes, I estimate the second-stage equation

$$y_{ic} = \alpha_i + \beta \widehat{\text{Selected}}_{ic} + f() + \mathbf{\Pi}' \boldsymbol{X}_{ic} + \tau_c + \varepsilon_{ic} \tag{3}$$

where y_{ic} is the value for each of the three outcomes described above for individual i in cohort c. Here, the inclusion of cohort fixed effects τ_c is crucial, as older individuals are more likely to be married or cohabitating, have completed higher education, and earn higher incomes.

Table 3 reports these results. Considering first the outcomes on the marriage market, the probit coefficient is estimated to be around 0.33, which suggests that selection to the junior national team increased the probability of the athlete being in a relationship by just under a third. The coefficient is significant at the 5% level. The results further show that selection to the national team increased the number of weeks of tertiary education by 0.18 standard deviations, which is equivalent to around 12 weeks of higher education, or roughly half a semester. The magnitude of the estimated effect is comparable to similar studies that examine the impacts of various interventions on educational outcomes, where reported magnitudes tend to range in the interval of $0.10 - 0.20\sigma$ (Angrist et al. 2009; Fredriksson et al. 2013; Marie and Zölitz 2017; Carrell and Kurlaender 2023). Finally, there is no effect of selection on taxable income and capital gains; the coefficient estimate is 0.04σ, which is close to zero, and statistically insignificant.

To investigate the marriage market outcomes further, we may turn to a more descriptive crosstab analysis. Combining athlete–partner dyads among the subset of athletes who are married or cohabitating, the goal is to establish whether those who were selected to the national team were more likely to be married or cohabitating with someone who also has a background in track and field.[11] Table A.4 of Online Appendix A shows the estimated odds ratios and corresponding p-values of the χ^2 test, indicating that among the subset of athletes who are married or cohabiting, those selected to the junior national team are indeed more likely to be married or cohabitating with someone who also has background in track and field. Both when using the optimal bandwidth, as well as when including the first- and fourth-placed athletes, the estimated odds ratios are significantly different from unity. This suggests that the athletic environment, to which exposure, on average, is longer for the selected athletes, plays a significant role as a venue for dating.

IV.C. Robustness Checks

1. Covariate Variation around the Cutoff

An important assumption in any regression discontinuity framework is that the covariates do not vary at the cutoff. In a case with a discrete running variable, such as in this paper, this is likely to be even more problematic. Table A.5 of Online Appendix A performs a standard balance test using the three covariates, namely gender, average parental income, and birth month. The results show no significant differences between those to the left of the cutoff and those to the right of the cutoff, that is, between second- and third-placed athletes.

Another concern is differential pre-treatment levels. To test this, I examine whether there were any differences in results between second- and third-placed athletes just before the junior national championships. Table A.5 of Online Appendix A further reports the balance tests for pre-national championships points scores for second- and third-placed athletes, with the numbers representing the athlete's best performance during the current season up until the national championship. There are no significant differences between second- and third-placed athletes. I also present the season's best scores for the athletes at age 16, 15, and 14. Again, there are no significant differences between second- and third-placed athletes.

[11] For the partners, it suffices that they have at least one recorded track and field competition in the database.

2. Placebo Regression Estimates

Although the covariates do not appear to vary significantly around the cutoff of 2.5, some readers may remain unconvinced about the causal effect of selection to the national team. As noted by Kolesár and Rothe (2018), inference in regression discontinuity designs with a discrete running variable can be challenging if the window around the threshold is too wide. In the context of this paper, an issue could arise if second- and third-placed athletes differ in terms of unobservable characteristics that affect longevity. This would mean that absent of the selection to the junior national team, second-placed athletes would have remained in sports for longer.

Thus, to further support the causal interpretation of the longevity results, we may conduct an analysis similar to that in Section IV.A, focusing instead on the pandemic year 2020. During the 2020 season, the Finland–Sweden match was canceled, while the Swedish national junior championships proceeded as usual.[12] This situation allows us to include additional data and estimate the effect of the running variable D_i for the 2020 cohort. Specifically, individuals who placed second likely would have been selected for the Finland match had the pandemic not occurred, whereas those who placed third likely would not have been selected. Before proceeding, note that this analysis has two caveats. First, the short time that has elapsed since 2020 may limit the observation of long-term outcomes. Second, the smaller sample size, due to the inclusion of only one cohort, reduces statistical power. Nevertheless, the pandemic provides a natural experiment for evaluating the impact of selection to the junior national team.

Table A.6 of Online Appendix A reports the estimated hazard ratios for the placebo estimates for the 2020 cohort, using second- and third-placed athletes as the preferred specification, and including athletes placed 1–4 for robustness. Since there was no selection to the national team, we would expect a hazard ratio of around one for the 2020 cohort. As expected, the coefficient estimate for the hazard ratio is indeed close to one across all specifications; the optimal bandwidth gives placebo estimates slightly below one with an estimated hazard that is 8–10% lower for the second-placed athletes, depending on whether covariates are included. Doubling the bandwidth produces estimated hazard ratios slightly above one. All coefficients are statistically insignificant, and overall, these results provide evidence in favor of a causal effect of selection to the national team on the risk of quitting sports.

Using the 2020 cohort may also help in answering whether selection to the national team was a protective factor against quitting, or if non-selection was a discouraging factor. Of the second-placed athletes in the 2020 cohort, 94% remained at age 19, which

[12] Finland, which was scheduled to host the 2020 edition, implemented significantly stricter COVID-related restrictions compared to Sweden. However, the senior match did proceed, albeit with a reduced number of spectators.

is very close to the 93% observed for the third-placed athletes. However, among second-placed athletes in the 2012–17 cohorts, the average survival rate was 86% at age 19, while only 78% of the third-placed athletes remained. Thus, there is more evidence pointing towards non-selected athletes being discouraged by non-selection.

3. Further Robustness Checks

While there are no significant differences in pre-treatment levels between selected and non-selected athletes, there could be differences in their performance trajectories. To examine this, I collect data on each athlete's best results score for the three years preceding age 17. If selection at age 17 were unrelated to prior performance, we would expect no significant differences in the performance of athletes aged 14–16 between those who were eventually selected and those who were not. The results, presented in Table A.7 of Online Appendix A, correspond to columns (1)–(2) in Table 2 with year-by-year differences in results scores as the outcome variable. The coefficient estimates are close to zero and statistically insignificant, suggesting that selected athletes were not on a differential trajectory in terms of results prior to age 17.

Another potential concern relates to placement in competitions. While the above results indicate no significant pre-treatment differences in results scores between second- and third-placed athletes, it is possible that those selected for the national team were already grittier before age 17. If so, the observed increases in persistence could reflect pre-existing grit rather than the causal effect of national team selection. Under this hypothesis, selected athletes would have been on a different trajectory in terms of placement in competitions before age 17, thus making it more likely that they would finish second in the national junior championships, as opposed to third. To test this, I estimate the same placebo regression model as above, replacing the yearly best score with the average competition placement for each season prior to age 17. These results, also presented in Table A.7 of Online Appendix A, show no evidence that selected athletes followed a different trajectory in competition placements compared to non-selected athletes. This further supports the conclusion that the observed effects are not driven by pre-existing differences in grit or performance trajectories.

V. Evidence on Mechanisms

V.A. Grit

To shed light on the mechanisms behind the results, I first examine whether being selected to the national team increased athletes' resilience. One of the chief reasons for why young adults disengage in sports are setbacks in terms of performance. Thus, one could make the argument that those who were selected early to the national team become less prone to quitting when experiencing temporary setbacks. Similar to Karadja and Prawitz (2019), I define a negative shock at the athlete level as

$$\text{Negative shock}_{ict} \stackrel{\text{def}}{=} \mathbb{1}[\Delta\text{Points score}_{ict} > \text{SD}(\text{Points score}_{ic})|\Delta\text{Points score}_{ict} < 0] \quad (4)$$

where athlete i of cohort c suffered a negative results shock in season t if the difference between the athlete's result in year t and the previous year (ΔPoints score$_{ict}$) was larger than the standard deviation of the results scores of all seasons prior to age 17, denoted SD(Points score$_{ic}$), conditional on the performance worsening compared to the previous season.[13] Then, it is straightforward to estimate the following second-stage equation:

$$h_{ict} = h_0 \times \exp\Big(\beta\widehat{\text{Selected}}_{ic} + \lambda\text{Negative shock}_{ict} + \xi(\text{Negative shock} \times \widehat{\text{Selected}})_{ict} + f() + \boldsymbol{\pi}'\boldsymbol{X}_{ict} + \tau_c\Big) \quad (5)$$

Table 4 presents the results. As the effects from selection are likely to be stronger in the first few years after the championship, I estimate two sets of regressions: one for the whole sample period, and one for the first two years after the championships, that is, when the athletes are between 17 and 19 years old. We can draw two conclusions. First, there is no significant effect of the interaction between selection and negative shock for the entire period. However, the estimated hazard ratio for the interaction is around 0.65 for the first two years after the Finland match, which is significant at the 10% level. This suggests that after experiencing a negative results shock, athletes who were not selected at age 17 have a risk of quitting in the two following years that is more than two times higher than those who were selected.[14] Finally, it is notable that the negative impact of the shock itself is considerably larger in magnitude for ages 17–19, with these athletes more than twice as likely to quit after experiencing such a shock, regardless of whether they had participated in the Finland match. However, younger are also likely to be more immature than athletes in their 20s, and thus, more likely to quit in response to the shock.

Taken together, these results are consistent with a grit-enhancing mechanism, through which temporary setbacks does not cause the athlete to give up. While only salient in the first few years after the national team selection, many important decisions are taken in late adolescence, meaning that it is plausible that this increase in grit may spillover to

[13]Note that SD(Points score$_{ic}$) only uses the variation in results prior to the inclusion in the national team to avoid endogeneity concerns.

[14]Calculated as follows: The hazard ratio for the treatment group with the shock using the full set of covariates is HR(treatment + shock) = $(0.652 \times 2.348 \times 0.673) = 1.032$. Thus, a non-selected athlete has a risk of quitting that is $2.348/1.032 = 2.28$ times higher than a selected athlete after experiencing a negative results shock.

non-sports outcomes as well.

V.B. Heterogeneous Effects

The existence of heterogeneous effects by gender and socioeconomic status may provide additional insights into potential mechanisms. To test whether longevity effects differ by gender and social status, I interact the selection variable with a binary indicator for female athletes, and similarly, a binary indicator for whether the athlete's average parental income was above the sample average.

The estimated hazard ratios are reported in Table A.8 of Online Appendix A. The interaction term between female gender and selection to the national team is approximately 0.80 and is significant at the 5% level. Additionally, the hazard ratio for selection alone is now 0.93 and statistically insignificant, suggesting that the longevity effect is largely driven by female athletes. This is consistent with the mechanism outlined in the Introduction: selection to the national team reinforces girls' athletic identities, thereby counteracting potential societal pressures, based on norms, to quit. In contrast, the interaction term between selection and high-SES status is statistically insignificant and close to unity in magnitude. Taken together, these results suggest that the longevity results are chiefly driven by female athletes, while socioeconomic factors are unlikely to be relevant in this context.

V.C. Career-Enhancing Actions

Another channel through which a one-time appearance on the national team might improve longevity and result scores is career-enhancing actions. I consider three such actions. First, moving to the U.S. on a sports scholarship. While only a small share of the sample—around 7%—has ever studied in the U.S., the effect on longevity for these athletes is partly mechanical, as U.S. sports scholarships typically require athletes to compete for the full four years of a BA degree. Second, changing track clubs within Sweden. Larger clubs generally offer better training environments due to a higher number of athletes, greater financial resources, and similar advantages. The decision to switch training environments may be influenced by peer effects, as interactions with peers during the Finland match could motivate athletes to seek better-supported clubs. Finally, I examine whether selected athletes are more likely to change their main event from the one in which they competed during the Finland match. As discussed in Section III.A, this often occurs among sprinters who transition to events requiring longer, more aerobic running.

A challenge in analyzing the timing of these events is that quitting sports prevents the event of interest from occurring. Thus, even if national team selection increases the probability of these actions, they remain unobservable for athletes who have already quit. Using terminology from survival analysis, quitting sports is a *competing event*. To model the time until an athlete undertakes one of these career-enhancing actions while accounting for the competing risk of quitting, I use the competing risks approach developed by Fine and Gray (1999). This model estimates the so-called subdistribution hazard ratio for each event of interest, which can be interpreted similarly to the hazard ratio.

Table A.9 of Online Appendix A reports results for each of the three events. For all outcomes, those selected to the junior national team were slightly more likely than non-selected athletes to undertake any of these career-enhancing actions. However, none of the differences are statistically significant. Numerically, although statistically insignificant, the largest coefficient is the subdistribution hazard ratio for U.S. sports scholarships. Still, as only about 7% of athletes have studied in the U.S., this channel is unlikely to be a major factor in explaining the longevity results.

V.D. Survey Evidence

Previously, we established that selection to the national team fosters non-cognitive abilities, particularly grit, which, in addition to serving as a protective factor against quitting sports, is likely to positively impact non-academic outcomes. An alternative explanation for why those selected to the national team are more successful in the marriage market and higher education is that selection prolongs athletes' careers, thereby increasing exposure to the athletic environment. This environment, in turn, may nurture other traits that correlate with a higher propensity to engage in higher education or pursue romantic relationships. Thus, in this section, I use the survey described in Section III.B to evaluate whether young adults who are active in sports differ from their peers in terms of confidence in higher education institutions, views on romantic relationships, and general well-being. This allows us to estimate

$$y_{is} = \beta \text{Actively involved in sports}_{is} + \mathbf{\Pi}' \boldsymbol{X}_{is} + \tau_s + \epsilon_{is} \tag{6}$$

where y_{is} is the outcome of interest for individual i from survey wave s, $\boldsymbol{X}_{is}$ is a vector of individual-level controls, and τ_s are the survey wave fixed effects. A caveat to note in this context is that the survey does not ask about specific sports, meaning that these results should be interpreted in a broader context of elite sports for young adults.

1. Life Satisfaction and Friends Interactions

Table 5 reports the results on life satisfaction and friends interaction. Those who are actively involved in sports report greater life satisfaction on a 1–4 Likert scale ranging from "very satisfied" to "not at all satisfied". The results are highly significant even after inclusion of the controls describes previously, with sports club activity associated with a 0.33 standard deviation higher self-reported life satisfaction. The coefficient is equivalent to around 12% higher life satisfaction relative to the mean. The effect on friends interactions is somewhat lower, with sports club membership increasing the frequency of interactions with friends by around 0.14 standard deviations. This is equivalent to a 3% increase relative to the mean. Taken together, these results are likely to explain at least some of the findings on academic outcomes, as well-being, both directly and through exposure to high-quality peers, is positively linked to academic achievement (Cornaglia et al. 2015; Bücker et al. 2018; Mehic 2024).

2. Confidence in Formal Institutions

I proceed by investigating whether young adults actively involved in sports display higher confidence in higher education institutions, compared to peers of similar age who are not actively involved in organized sports. I also compare these results with confidence in other formal institutions. Confidence in institutions is measured on a 1–5 Likert scale, with responses ranging from "very unfavorable" to "very favorable". I standardize each coefficient, so that its mean is zero, and its standard deviation is equal to unity. Since confidence in institutions is likely to be affected by a large number of other factors, I include controls for gender, education rate, parental employment sector, as well as geographical controls.[15]

Table 6 reports these results; higher values are associated with more favorable opinions. Those actively involved in sports rate themselves 0.3 standard deviations higher on the 1–5 Likert scale. For the preferred specification (2), that is, with controls and covering the age rage 16–25, the standardized coefficient 0.321 is equivalent to approximately 0.25 units on the 1–5 scale, or a difference of 10% relative to mean. Table A.10 of Online Appendix A presents the results when investigating respondents' views on a range of other institutions: the government, the European Commission, the police, TV and radio media, the judiciary, and "major corporations". Despite a similar sample size, there are no significant effects of being actively involved in a sports club on opinions of any of these institutions. In addition, most coefficient estimates are close to zero in magnitude, which contrasts the previously estimated coefficient for favorability of higher education institutions. Consequently, these results suggest that actively participating in a sports club is associated with higher support for higher education institutions.

3. Views on Love and Romantic Relationships

Similar to how college acts as a local marriage market. However, it is also possible that young adults involved in organized sports have stronger preferences for romantic relationships, perhaps due to some unobserved characteristic fostered in the athletic environment. To check whether this holds true, I analyze responses to two similar questions—how im-

[15]See Online Appendix B for a detailed description of these variables.

portant love and romantic relationships are for the respondent—rated on a scale from 1 to 5, and again, restrict the sample to include only young adults within the 16–25 and 16–29 age groups.

The results presented in Table A.11 of Online Appendix A show that the coefficient estimates for young adults active in sports clubs is close to zero and statistically insignificant for both questions. This holds both for the 16–25 and 16–29 age groups. Thus, there is nothing to suggest that athletes and non-athletes differ with respect to their preferences for love and romantic relationships.

Together with the previous results about selected athletes being more likely to form romantic relationships with individuals who have a track and field background, this finding gives support to the search friction channel: selection to the national team, by prolonging athletes' careers, increases athletes' exposure to a more local dating market, while non-athlete peers are to a larger extent confined to a more mainstream dating market, where search frictions tend to be high and desirable partners are scarcely available.[16] Additionally, this result is consistent with recent research emphasizing that marriage markets are typically more local then previously modeled by economists.[17]

VI. Concluding Remarks

This paper examines the impact of being selected for a one-time appearance with the junior national team at age 17 in track and field. The results show that inclusion in the junior national team decreases athletes' risk of quitting sports and leads to improved athletic performance. In terms of non-sports outcomes, selection to the national team is associated with greater success in the marriage market and a larger number of completed academic credits, even though sports participation does not increase the likelihood of admission to higher education. The latter result implies that selection to the national team has a positive effect on human capital formation. The estimated effects on longevity in sports are stronger for female athletes in this paper. This result is in line with a previous finding suggesting that the effects of recognition in the form of awards or praise may be stronger for women (Gallus and Heikensten 2020). This may be particularly true in environments traditionally dominated by males, such as sports.

However, the findings in this paper have broader implications outside the relatively narrow world of sports. Various forms of non-monetary recognition and praise are common both in the labor market and in education. The results of this paper show that such recognition is likely to be valuable for enhancing worker morale and may result in positive spillover effects in other domains of life.

[16] See Antler and Bachi (2022) for a formal model describing how Internet dating, which is the dominant form of dating today, may increase search times towards infinity.

[17] See Juhn and McCue (2017) or Kirkebøen et al. (2021) for additional discussion.

Finally, there are several potential directions for future research. One such area of research is to further study under which conditions the positive effects of recognition and praise are stronger for women compared to men. Second, it could be of interest to further examine whether praise and recognition in the labor market targeted at adults rather than adolescents, such as “employee of the month” awards, is associated with positive non-labor market spillover effects.

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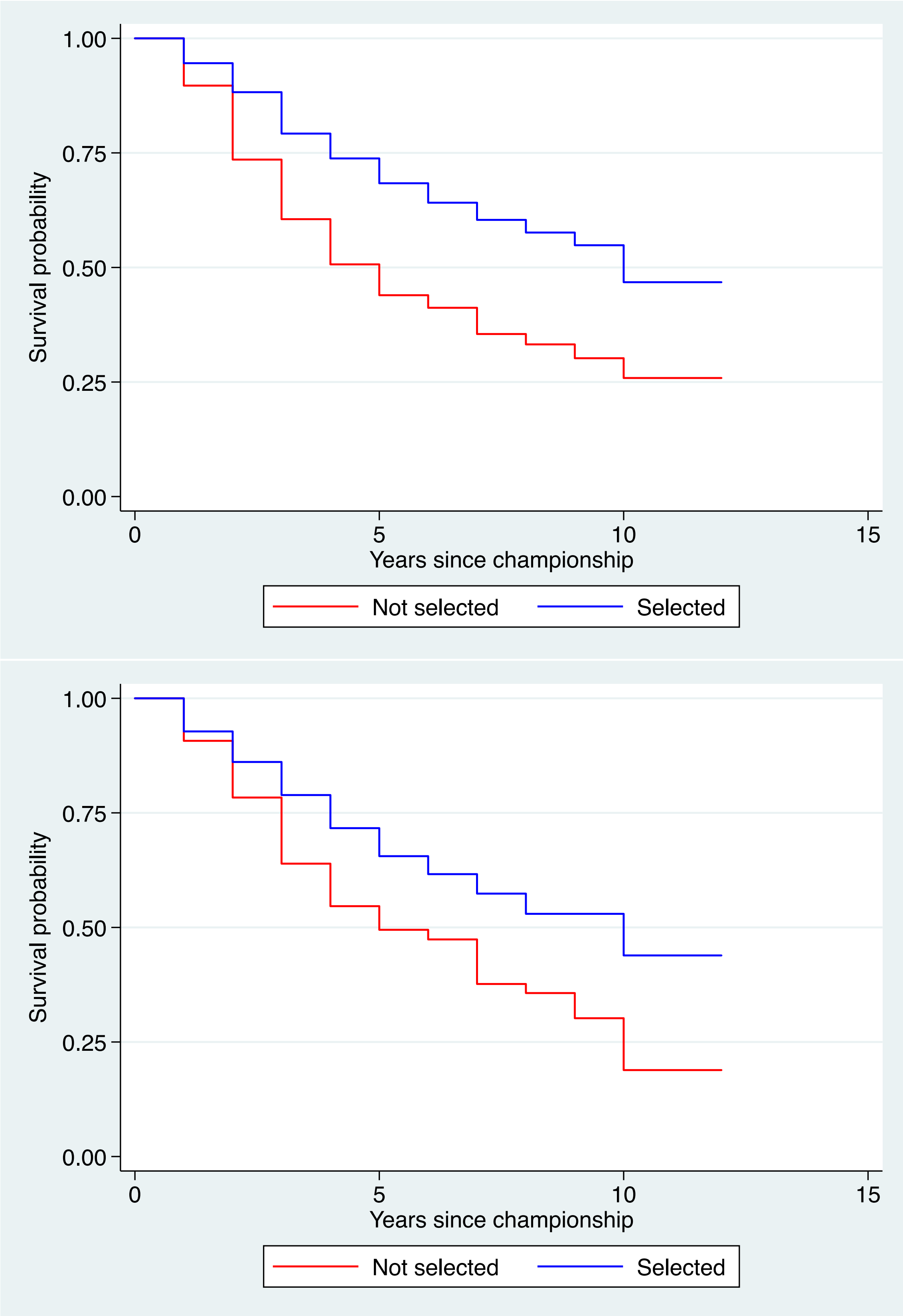

Figure 1: Kaplan-Meier survival curves for all athletes (top), and for the second- and third-placed athletes only (bottom).

Table 1
Effects on sports longevity

Outcome variable:			
Survival time	(1)	(2)	(3)
National team selection	0.574***	0.754***	0.760***
	(0.091)	(0.076)	(0.077)
Year FE	Yes	Yes	Yes
Covariates	No	No	Yes
Observations	1,474	1,474	1,454
F-statistic of excl. instruments		160.53	157.75
Method	Sharp RD	Fuzzy RD	Fuzzy RD
Mean dep. var. (analysis time when record ends)	4.05	4.05	4.05

Note. Outcome variable: Survival time. Robust standard errors in brackets. *** and ** denote significance at the 5% and 1% level, respectively.

Table 2
Long-term effects of national team selection (logs)

Outcome variable:				
Log points score	(1)	(2)	(3)	(4)
Score_{t-1}			0.810***	0.880***
			(0.090)	(0.074)
National team selection	0.031***	0.028***	0.009**	0.007**
	(0.008)	(0.008)	(0.004)	(0.003)
Year FE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Observations	1,255	1,088	864	745
F-statistic of excl. instruments	313.64	287.64	313.64	287.64
Hansen J test p-value	[0.78]	[0.50]	[0.54]	[0.66]
AR(1) test test p-value	[0.00]	[0.00]		
AR(2) test p-value			[0.28]	[0.53]
Mean dep. var.	6.81	6.81	6.81	6.81

Note. Outcome variable: Log points score. Robust standard errors in brackets. *** and ** denote significance at the 5% and 1% level, respectively.

Table 3
Long term non-sports outcomes

Outcome variable:	Married/cohabitating	Academic credits (standardized)	Taxable income (standardized)
National team selection	0.332**	0.182*	0.044
	(0.155)	(0.106)	(0.095)
Year FE	Yes	Yes	Yes
Covariates	Yes	Yes	Yes
Observations	181	181	179
Method	Fuzzy Probit	Fuzzy RD	Fuzzy RD
R^2		0.173	0.376
Mean dep. var.	0.367	0.000	0.000

Note. Outcome variables: Column (1): An indicator for whether the individual is married or cohabiting. Column (2): Standardized number of weeks of used study aid. Column (3): Standarized taxable income, including capital gains. Robust standard errors in brackets. *** and ** denote significance at the 5% and 1% level, respectively.

Table 4
Resilience to negative shocks

Outcome variable:	Entire sample period		Age 17–19	
Survival time	(1)	(2)	(1)	(2)
National team selection	0.757**	0.764**	0.644*	0.652*
	(0.084)	(0.085)	(0.156)	(0.159)
Negative shock	0.808	0.801	2.362	2.348
	(0.357)	(0.354)	(1.297)	(1.138)
National team selection × Negative shock	0.982	0.979	0.677*	0.673*
	(0.110)	(0.114)	(0.151)	(0.151)
Covariates	No	Yes	No	Yes
Observations	1,474	1,454	454	450
Method	Fuzzy RD	Fuzzy RD	Fuzzy RD	Fuzzy RD
Mean dep. var.	4.08	4.08	1.48	1.48

Note. Outcome variable. Survival time. Robust standard errors in brackets. *** and ** denote significance at the 5% and 1% level, respectively.

Table 5
Survey data: Social aspects of sports participation

Outcome variable:	Life satisfaction		Friends interactions	
	(1)	(2)	(1)	(2)
Actively involved in sports	0.328***	0.330***	0.189**	0.138*
	(0.119)	(0.121)	(0.075)	(0.078)
Survey wave FE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Age range	16–25	16–25	16–25	16–25
Observations	12,217	10,761	12,851	11,310
Scale	1–4 Likert	1–4 Likert	1–7 interval	1–7 interval
R^2	0.003	0.041	0.019	0.033
Mean dep. var.	0.000	0.000	0.000	0.000

Note. Outcome variable: Standardized life satisfaction on a 1–4 scale and estimated frequency of friends interactions, respectively. Controls: The respondent's gender, eduction level, socioeconomic background, region of residence, and whether the respondent has immigrant background. Robust standard errors in brackets. *** and ** denote significance at the 5% and 1% level, respectively.

Table 6
Survey data: Confidence in higher education institutions

Outcome variable: Confidence in higher ed. inst.	(1)	(2)	(3)	(4)
Actively involved in sports	0.289*	0.321**	0.315**	0.328**
	(0.161)	(0.161)	(0.145)	(0.146)
Survey wave FE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Age range	16–25	16–25	16–29	16–29
Observations	8,923	7,891	12,844	11,568
Scale	1–5 Likert	1–5 Likert	1–5 Likert	1–5 Likert
R^2	0.010	0.041	0.001	0.041
Mean dep. var.	0.000	0.000	0.000	0.000

Note. Outcome variable: Standardized confidence in higher education institutions on a 1–5 scale. Robust standard errors in brackets. *** and ** denote significance at the 5% and 1% level, respectively.

Online Appendix [Not for Publication]

A. Additional Empirical Results

Table A.1
Summary Statistics

Outcome variables	**Mean**	**Std.dev.**	**Min**	**Max**
Survival time (analysis time when record ends)	4.05	2.60	1	12
Points score (1–1,400 scale)	905.94	89.71	449	1,226
Married or cohabitating	0.367	0.483	0	1
Weeks of used study aid	122.30	72.37	0	239
Taxable income and capital gains (SEK, thousands)	218.72	214.39	0	1,889.40
Covariates				
Female (%)	50.1	50.1	0	1
Average parental income (SEK, thousands)	445.09	218.85	0	1,814.10
Birth month (1 = January)	5.04	2.99	1	12

Note. Summary statistics for the variables used in the main analysis.

TABLE A.2
ROBUSTNESS CHECKS: SURVIVAL MODEL

Outcome variable:						
Survival time	Exponentially distributed errors		Doubled bandwidth		Cox proportional hazards model	
	(1)	(2)	(1)	(2)	(1)	(2)
National team selection	0.806**	0.815**	0.528***	0.534***	0.773***	0.780***
	(0.071)	(0.071)	(0.112)	(0.114)	(0.074)	(0.074)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	No	Yes	No	Yes	No	Yes
Observations	1,474	1,454	2,963	2,943	1,711	1,454
Mean dep. var.	4.05	4.05	4.08	4.08	4.05	4.05

Note. Outcome variable: Survival time. Robust standard errors in brackets. *** and ** denote significance at the 5% and 1% level, respectively.

Table A.3
Robustness check: Dynamic panel model

Outcome variable:				
Log points score	Arellano-Bover estimates		Windmeijer standard errors	
Score_{t-1}	0.827***	0.884***	0.814***	0.890***
	(0.086)	(0.069)	(0.092)	(0.073)
National team selection	0.009**	0.008**	0.008*	0.008**
	(0.004)	(0.004)	(0.005)	(0.004)
Year FE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Observations	863	745	863	745
Hansen J test p-value	[0.39]	[0.46]	[0.54]	[0.53]
AR(2) test p-value	[0.27]	[0.93]	[0.31]	[0.55]
Mean dep. var.	6.81	6.81	6.81	6.81

Note. Outcome variable: Log points score. Robust standard errors in brackets. *, **, and *** denote significance at the 10%, 5%, and 1% level, respectively.

Table A.4
Marriage market outcomes

Crosstable analysis: Partners of married or cohabitating athletes	Optimal bandwidth	Double bandwidth
National team selection	4.2*	5.2***
	[0.065]	[0.007]
Observations	69	148
Method	Crosstab	Crosstab

Note. Estimated odds ratios from the contingency table analysis of athletes who are married or cohabiting. The null hypothesis is that among married or cohabiting athletes, the share of partners with a background in track and field does not differ between those selected for the national team and those not selected. *P*-values of the χ^2 test in square brackets. *** and * denote significance at the 10% and 1% level, respectively.

Table A.5
Balance tests

Covariate	Second-placed	Third-placed	p-value for equality of proportions/means
Female (%)	50.0	50.3	[0.96]
Average parental income (SEK, thousands)	449.93	440.25	[0.73]
Birth month (1 = January)	4.88	5.18	[0.44]
Season's best score immediately prior to championships	862.13	844.57	[0.14]
Season's best score at age 16	829.43	815.23	[0.23]
Season's best score at age 15	768.34	757.89	[0.53]
Season's best score at age 14	709.65	698.49	[0.63]

Note. Balance test comparing the second-placed and third-placed athletes with respect to the share of females, the average parental income, the birth month, the best score obtained by the athlete immediately prior to the national junior championships, as well as at age 16 and 15.

Table A.6
Robustness checks: Estimates using the 2020 cohort

Outcome variable: Survival time	Second- and third-placed athletes		Doubled bandwidth	
	(1)	(2)	(1)	(2)
National team selection	0.916 (0.435)	0.896 (0.414)	1.132 (0.901)	1.149 (0.905)
Covariates	No	Yes	No	Yes
Observations	161	161	324	324
Mean dep. var.	2.30	2.30	2.33	2.33

Note. Outcome variable: Survival time (only the 2020 cohort included). Robust standard errors in brackets.

Table A.7
Placebo regression: Points score and placement at championships

Outcome variable:	ΔLog points score, age 14–16		ΔPlacement at comp., age 14–16	
	(1)	(2)	(1)	(2)
National team selection (at age 17)	−0.001	−0.001	0.000	−0.029
	(0.014)	(0.011)	(0.014)	(0.270)
Year FE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
Observations	297	257	297	276
Mean dep. var. (non-differenced values)	6.64	6.64	3.08	3.08

Note. Outcome variable: Yearly difference in log points scores, and yearly differences in average placement at competitions, respectively, at age 14–16. Robust standard errors in brackets.

Table A.8

Heterogenous effects

Outcome variable:						
	Interaction: Gender			Interaction: High-SES athlete		
Survival time	(1)	(2)	(3)	(1)	(2)	(3)
Selected	0.754***	0.938	0.933	0.754***	0.785*	0.789*
	(0.076)	(0.130)	(0.129)	(0.076)	(0.115)	(0.099)
Female athlete		1.274	1.235			
		(0.293)	(0.283)			
Selected × Female athlete		0.805**	0.811**			
		(0.078)	(0.081)			
High-SES athlete					1.228	1.247
					(0.307)	(0.293)
Selected × High-SES athlete					0.965	0.954
					(0.096)	(0.089)
Covariates	No	No	Yes	No	No	Yes
Observations	1,474	1,474	1,454	1,474	1,474	1,454
Method	Fuzzy RD	Fuzzy RD	Fuzzy RD	Fuzzy RD	Fuzzy RD	Fuzzy RD
Mean dep. var.	4.08	4.08	4.08	4.08	4.08	4.08

Note. Outcome variable: Survival time. Robust standard errors in brackets. *** and ** denote significance at the 5% and 1% level, respectively.

Table A.9
Career-enhancing actions

Outcome variable:	U.S college career	Changing club in Sweden	Changing events
National team selection	1.373	1.071	1.121
	(0.406)	(0.164)	(0.127)
Covariates	Yes	Yes	Yes
Observations	1,356	1,205	1,011
Method	Fuzzy RD	Fuzzy RD	Fuzzy RD
Mean dep. var.			
(analysis time when record ends)	3.98	3.65	3.53

Note. Competing risks estimates (Fine and Gray 1999). Outcome variable: Survival time to each of the events, with quitting sports altogether as the competing event. Robust standard errors in brackets.

Table A.10
Survey data: Opinion of other institutions

Outcome variable:						
Favorable opinion of	Government	European Comm.	Police	Media	Judiciary	Major corporations
Actively involved in sports	0.011	0.159	−0.037	0.193	0.072	0.056
	(0.152)	(0.221)	(0.162)	(0.198)	(0.245)	(0.238)
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Age range	16–25	16–25	16–25	16–25	16–25	16–25
Observations	10,290	6,706	10,325	10,275	8,085	8,883
Scale	1–5 Likert	1–5 Likert	1–5 Likert	1–5 Likert	1–5 Likert	1–5 Likert
R^2	0.054	0.094	0.044	0.030	0.041	0.023
Mean dep. var.	0.000	0.000	0.000	0.000	0.000	0.000

Note. Outcome variable: Standardized favorability of each of the institutions. Robust standard errors in brackets.

Table A.11
Survey data: Views on romantic relationships

Outcome variable:	"How important is love?"		"How important is a romantic relationship?"	
	(1)	(2)	(1)	(2)
Actively involved in sports	0.015	−0.003	−0.111	0.007
	(0.044)	(0.050)	(0.185)	(0.153)
Survey wave FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Age range	16–25	16–29	16–25	16–29
Observations	2,989	4,447	503	708
Scale	1–5 Likert	1–5 Likert	1–5 Likert	1–5 Likert
R^2	0.046	0.049	0.044	0.060
Mean dep. var.	0.000	0.000	0.000	0.000

Note. Outcome variable: Standardized agreement with the statement. Robust standard errors in brackets.

B. Data Description

This section presents the data sources for the variables used in the paper.

Data on track and field outcomes. The track data comes from the site *friidrotts-statistik.se*, which is the official statistics service of the Swedish Athletics Federation. As discussed in Section III.A, there is data on all track and field athletes with Swedish nationality, including those with double citizenship who compete for other nations internationally. All track and field meetings in Sweden need to be pre-registered with the Federation, which also includes local, minor competitions. Additionally, organizers of competitions in Sweden are required to use one of five officially endorsed Internet platforms, which are connected to the Federation's statistics server. This ensures that results are uploaded to the site almost instantly, usually within 24 hours.

Register data. The data on athlete and parental taxable income and capital gains come from the Swedish Tax Authority. The data on used weeks of study aid comes from the Swedish Board of Student Finance, which is the government agency tasked with administering student aid.

Survey data. The structure of the survey is described in detail in Section III.B. For the main independent variable of interest, the survey asks about sports club involvement on a 1–4 scale ranging from "non-member", "member", "member and I have some sort of position", and "member and actively participating" with only respondents answering the latter are classified as being "actively involved in sports".