



Does intensive coaching reduce school dropout? Evidence from a randomized experiment



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ABSTRACT

School dropout is an important social and economic problem. This paper investigates the effect of an intensive coaching program aimed at reducing school dropout rates among students aged 16–20. Students received support and guidance with their study activities, personal problems and internships in firms. The coaching program lasted one or two years. Students were randomly assigned to the coaching program. We find that one year of coaching reduced school dropout rates by more than 40% from 17 to 10 percentage points. The second year of coaching further reduced school dropout by 1 percentage point. The program is most effective for students with a high ex-ante probability of dropping out, such as students no longer obliged to be in formal education, male students, and students not living with both parents. Cost-benefit analysis suggests that one year of coaching is likely to yield a net social gain.

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1. Introduction

Dropping out of school is an important social and economic problem in many countries. A large literature documents the benefits of education, for instance higher wages (Card, 1999; Harmon, Oosterbeek, & Walker, 2003; Heckman, Stixrud, & Uruza, 2006), better health (Lleras-Muney, 2005; Oreopoulos, 2007), less participation in crime (Lochner & Moretti, 2004; Machin, Marie, & Vujic, 2012), and a higher intergenerational transfer of human capital (Oreopoulos et al., 2006). However, in many countries the proportion of students that do not finish their education remains high, in particular their secondary education (OECD, 2012). Not completing their education will reduce the future prospects of students, especially for students with a low level of

completed education, and might induce costs for society at large. The problem of school dropout is not new; schools and policy makers have long been concerned with high dropout rates and have actively searched for interventions or programs to increase graduation rates. In the recent literature two approaches aimed at reducing school dropout seem most promising. First, financial incentives for students (e.g. Dearden, Emmerson, Frayne, & Meghir, 2009) or conditional cash transfers (e.g. Attenasio et al., 2010; Schultz, 2004) have been shown to reduce school dropout or to increase enrolment. The second approach, which is the focus of this paper, is to use coaches that give intensive personal attention and support to students at risk.

Intensive coaching or mentoring programs appear to be able to reduce school dropout rates and/or improve educational progress and attainment among adolescents. For instance, positive results have been reported from the Big Brothers/Big Sisters program (Grossman & Tierney, 1998; Herrera et al., 2007), Sponsor-A-Scholar program (Johnson, 1999), the Check-and-Connect program

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(Sinclair, Christenson, Evelo, & Hurley, 1998; Sinclair, Christenson, & Thurlow, 2005), the Quantum Opportunities Program (Rodríguez-Planas, 2012a; Schirm, Stuart, & McKie, 2006¹) and the Pathways to Education program (Oreopoulos, Brown, & Lavecchia, 2014). In addition, an evaluation of twenty dropout prevention programs in the United States showed promising results of programs characterized by an intensive and personal approach in smaller groups (Dynarski, Gleason, Rangarajan, & Wood, 1998). Carneiro and Heckman (2003) review a number of evaluations of dropout prevention programs in the United States. They conclude that sustained interventions targeted at adolescents still enrolled in school can positively impact learning and subsequent employment and earnings, but that interventions targeted at dropouts seem less successful. The National Guard Youth Challenge Program, which includes a mentoring program, also appears to be effective (Millenky, Bloom, & Dillon, 2010). Bettinger and Baker (2013) find positive effects of the Inside-Track coaching program for college students on the probability of staying in college.

Our paper focuses on an intensive coaching program aimed at reducing school dropout of students aged between 16 and 20 in secondary (vocational) education in the Netherlands. The coaching program included a range of preventive activities such as working on study skills (e.g., planning and organizing), counseling in case of personal problems and contacts with parents. The coaches had extensive educational experience and were highly trained. They monitored the students closely through intake sessions, home visits, observations of behavior and attendance in class and visits during internships. Students received support and guidance with their study activities, with internships in firms, and with personal problems. On average one fulltime coach was assigned to a class of twenty students. Students within five vocational courses were randomly assigned to classes that received the coaching program and to classes that received care as usual. The random assignment of students enables us to identify the causal effect of the program. Our study focuses on two cohorts of students. The first cohort received two years of coaching whereas the second cohort received one year of coaching.

Our main finding is that the intensive coaching program has a large effect on school dropout. One year of coaching reduces the school dropout rate by more than 40%, that is, from 17% to 10%. The estimated effect after two years of coaching is slightly larger. We find larger effects for students with a higher ex-ante probability of school dropout: male students, students not living with both parents, and students above the compulsory school-leaving age. Tentative cost-benefit calculations suggest that one year of intensive coaching yields a net social gain whereas two years of coaching probably does not. The internal rate of return of one year of coaching is calculated at 6.9%, whereas that of two years of coaching is calculated at 3.7%. Targeting the program toward student with a high ex-ante probability of dropping out and toward the first year of the vocational course is expected to improve the cost-effectiveness of the program.

Our paper contributes to the literature on school dropout prevention interventions in secondary education by adding rigorous evidence about a high quality intervention that seems widely applicable. The coaching program investigated in this study shares several elements with mentoring programs studied in the literature, such as assignment of a coach/mentor with a strong personal and supportive approach, and a focus on student-coach interactions and activities for students still enrolled in school. However, the high quality and intensity of the program, as indicated by the educational experience and level of educational attainment of the coaches, the student/coach ratio, the full-time availability of a coach, and the broad range of interventions, seem different from previous rigorous courses. In addition, the context, timing and target group of this program is also different. While previous courses mainly studied interventions at middle or high school level, this program focused on students with an average age of 18 years starting in intermediate post-secondary vocational education. These students had just made a transition toward a new vocational course. The target group of students was the general population of students, whereas previous courses mostly focused on students with disadvantaged or lower socioeconomic backgrounds.² The target group of students in the Dutch program includes students both under and above the statutory school-leaving age. This enables a comparison of program effects by compulsory schooling status. In addition, most courses have investigated US programs whereas this study has a European context.

This paper proceeds as follows. Section 2 gives a description of the coaching program. Section 3 presents the setup of the experiment. Section 4 presents the empirical strategy, whilst Section 5 describes the data. Section 6 shows the effects of one year in the program on school dropout, followed in Section 7 by the effects of two years of coaching on school dropout and degree completion. Section 8 presents the tentative cost-benefit analyses of one and two years of intensive coaching. Section 9 concludes and gives a brief discussion of the main results. Appendix A provides further information about the Dutch context and the background of the experiment. Appendix B gives summary statistics for the first of two cohorts, whereas Appendix C provides more details on the cost-benefit analyses.

2. The coaching program

The coaching program consisted of various types of interventions, both preventive and after students dropped out from a particular vocational program (i.e. 'curative' interventions). The following preventive interventions were part of the coaching program:

- Intake sessions with all students aimed at getting to know each other, detecting personal and/or educational problems and to make follow-up arrangements

¹ Rodríguez-Planas (2012a) found modest average long-term effects of the Quantum Opportunity Program on educational outcomes, with shorter-term effects being more impressive.

² The average school dropout rates are lower in our experiment than in previous mentoring courses in the 'care-as-usual' situation. For instance, the school dropout rates in the US Quantum Opportunities Program were about 50% and in the Education Maintenance Allowance control areas 36%, whereas the dropout rate in the Dutch coaching experiment was less than 20%.

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