



Can social groups impact schooling decisions? Evidence from castes in rural Senegal



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ABSTRACT

Alongside classical determinants of education, there is a growing literature of social interactions in education which seems to be particularly concentrated in developed countries. This seems paradoxical as norms, culture and social capital appear to play a more important role in everyday life in Africa. We use a rich data set collected in Niakhar in rural Senegal, between 2001 and 2008 to study whether the school attendance of a child depends on the school attendance of other children in the same social group. Social groups are defined using geographical proximity and caste groups. While it is particularly difficult to empirically identify the impact of social group behavior, we take advantage of the temporal structure of the data to deal with a number of endogeneity issues. We rely moreover on different empirical strategies and placebo tests to argue that our results are not subject to confounding interpretations. Results show evidence of a strong and positive effect of social interactions on school attendance and the impact is greater for members of the highest caste.

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1. Introduction

Children's education is one of the pillars of personal achievement and global economic development. Yet, a significant portion of children in developing countries remain out of school. In 2013, about 30 million primary-school-age children in Sub-Saharan Africa were not enrolled in school. This accounts for half of the world's unenrolled children (UNESCO, UIS, 2015). As highlighted by the UNESCO report, "half of these children in the region have never been enrolled and may never enroll without additional incentives" (UNESCO, 2015). This statement raises the issue of a good understanding of which factors can foster or dampen school participation in order to apply effective educational policies. This paper contributes to this literature by analyzing how social interactions can shift the decision to enroll children in school in a rural area in central Senegal. In Senegal particularly, half a million primary-school-age children (between 6 and 11 years old) were

out of school in 2013 (UNESCO, UIS, 2015), which accounts for a large share (1/4) of the two million primary-school-age children. Beyond the necessary efforts of investing in schools, teachers, textbooks etc. it is crucial to target the most vulnerable children and to identify factors that contribute to this lack of schooling. Social norms and beliefs are probably part of these factors. In this paper, we construct social categories based on caste groups and geographical proximity and show that children's school attendance is affected by the general school attendance of the child's social group.

Some papers have demonstrated the importance of social interactions on school performance or school attendance. Bobonis and Finan (2009) and Lalive and Cattaneo (2009) using the Progreso program, a randomized conditional cash transfer program in Mexico, show that school attendance increased for non-treated children in villages covered by the program suggesting a ripple effect. Likewise, in the assessment of a girls' scholarship program in Kenya, Kremer, Miguel, and Thornton (2009) point out that school performance of other girls less likely to get a scholarship and even of boys, improved. A growing body of literature in economics studies peer effects in education but seems to be particularly focused on developed countries (Hoxby, 2000; Sacerdote, 2001; Zimmerman, 2003; Cipollone & Rosolia, 2007;

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Ammermueller & Pischke, 2009). Many of these studies show that peer effects influence educational performance.

Akerlof and Kranton (2002) connect this economic literature with the sociological literature and explain how in addition to economic determinants, social interactions can highly influence schooling. They built a model which formalizes ideas of conformity and social norms applied in education. This model adds a social dimension to the standard utility function of education demand. The social utility is expressed as a cost that the individual bears when he is not in line with the expected behavior of his social group. The social utility function takes into account this disutility that arises due to deviation from the social norm. Therefore, a child who belongs to a social group where schooling is not highly valued is less likely to be enrolled and vice versa. This aspect is rarely considered in economic studies. In Africa in particular, the current school system is derived from colonization and is not incorporated in traditional practices particularly in rural zones. This may explain a kind of reticence in some contexts to enroll children in school. Thus, the schooling decision can be strongly driven by social aspects.

To capture how social features impact educational decisions, we rely on caste³ groups and geographical proximity. We exploit a rich data set from a population monitoring established since 1983, a school monitoring carried out between 2001 and 2008 and a household survey conducted in 2003 in 30 villages in an area in Central Senegal called Niakhar. Castes may convey different norms and traditions that can affect schooling. Some studies demonstrate a relationship between castes and schooling. Dostie and Jayaraman (2006) in India show differentiating effects between castes and find a significant impact of caste fractionalization on children's schooling. Jacoby and Mansuri (2015) show in rural Pakistan that low caste children are deterred from going to school if the most convenient school is in a hamlet dominated by high-caste households. In our study area, castes can be divided into three main groups: farmers, the royal caste and griots and artisans. Thus, children in the same village and of the same caste constitute a social category. The royal caste is considered as the top of the social hierarchy, followed by the farmer caste and lastly by the caste of griots and artisans. Membership to a caste depends only on lineage and not on current profession.

Our paper contributes to the existing literature on the determinants of education in several ways. First, many studies on peer effects in education are conducted in a school or a classroom context and aim to explain school performance, not attendance. Our study aims to examine whether social interactions represent a key determinant of school attendance in Senegal and the scale in which social interactions are studied (the caste and the village) is much broader than the classroom or the school level. Second, there is little evidence on social interactions in education in Africa. Several studies focus on developed countries, which seems somehow a missing opportunity as social norms have an important role in everyday life in Africa. Our study could then be useful to better understand attitudes toward schooling and to improve educational and social policies. Finally, we give particular attention to the role of castes in Senegal. Historically, castes represented a fundamental component of Senegalese society and still today remain omnipresent in different aspects of the functioning of the society particularly in rural areas. Unfortunately, the vast majority of studies on caste groups by economists and some other social scientists have focused on Southern Asia. Little is known about how the categorization of the society through caste membership influences economic life and shifts some economic decisions in Senegal.

A big challenge in this paper is to properly identify the impact of social group behavior on the school attendance decision. Generally, identification in social interaction models is particularly difficult due to multiple endogeneity biases that make the isolation of the true social interaction effect difficult. Manski (1993) shows in the linear-in-means model that the estimated effect can simply denote the fact that individuals with the same unobserved characteristics or exposed to the same environmental factors tend to behave similarly, which makes difficult the separation of the endogenous social interactions effect from the contextual effects. The formation of groups can also be endogenous leading to a self-selection bias. Individuals with similar preferences toward education may, for example, belong to the same group or sort themselves over time leading to a dynamic sorting phenomenon. Moffitt (2001) details the different endogeneity problems and offers some solutions to them. Blume, Brock, Durlauf, and Ioannides (2011) have amply discussed the identification of social interactions.

The panel structure of the data allows us to estimate a dynamic model, with the lagged attendance rate as the main explanatory variable, which helps to solve the reflection problem. We also use estimations with individual fixed effects enabling us to predict not levels but changes over time of the school attendance decision by the lagged attendance rate of the social group. Self-selection into social groups in our case is likely to occur only at the village level since caste membership is time-invariant. We use data on internal migration between villages to account for dynamic sorting. Furthermore, we estimate the effect of the difference between the attendance rate of the caste and the attendance rate of the village and rely on some placebo tests as well to argue that geographical confounding factors do not drive our results. We find that the social group behavior strongly influences children attendance decision with a point estimate ranging between 0.25 and 0.30 percentage points.

The remainder of the paper is organized as follows. Section 2 presents the study area, the caste system in West Africa, the data, and some descriptive evidence. Section 3 explains the methodology and the identification strategies. Section 4 discusses the results. Section 5 concludes.

2. Descriptive analysis

2.1. Presentation of the study area

The study area Niakhar is a rural zone in the region of Fatick located 135 km east of Dakar, the capital of Senegal (see Fig. 1). It contains 30 villages divided into two rural communes (third ter-



Fig. 1. Location of Niakhar.

³ A caste is a hierarchical social, endogamous and hereditary group.

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