Who influences young immigrants?

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Abstract

Is teenagers decision to use contraceptives influenced by peers? To identify peer effects, we rely on cross-cohort variation in students usage in Danish high-schools. To address the reflection problem, we focus on the influence of older cohorts on younger ones. Contraception not being prevalent among young women with a non-Western background, its usage is a good measure of cultural adaptation. Looking at the effect of different peers group is indicative of which is influential. Immigrant teenagers adapt their behaviours to what other immigrants (but not what other natives) do. Their probability of using contraceptives and of having an abortion becomes lower, but not their likelihood of being treated for chlamydia.

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1 Introduction

What determines the adoption (or rejection) of natives culture by young immigrants? Does exposure to young natives foster the adoption of mainstream behaviours? Are young immigrants responsive to other young natives, in the sense that they adapt their own behaviours to natives? Or are they closed to their influence but opened to that of other immigrants instead?

It is difficult to provide convincing empirical evidence on those questions for three reasons. First, one needs to isolate a behaviour for which natives and immigrants differ and for which adoption by immigrants is non-trivial. Once this outcome is selected, one needs to provide exogenous variation in exposure to that behaviour. People choose the neighbourhoods in which they live, the schools to which they go and the network of friends to which they belong, so one should be careful not to mistake sorting for peer influence. Third, once random variation in exposure is found, one must find a way to address the reflection problem, Manski (1993). If teenagers are in contact with each other, how can we be sure to isolate a one-sided, from a reciprocal, influence? This paper addresses these three challenges.

We focus on teenage immigrants decision to use contraceptives. There are particular wide gaps in culture between Western and non-Western countries when it comes to teenage female sexuality[1]. This is a particularly important area as female sexuality is potentially connected to gender role and is the predecessor for fertility and marriage - both factors that are important for later labour market attachment Goldin and Katz (2002). In this paper, we rely on administrative data on contraceptive usage, abortion, treatment for a STD and visit to a GP[2]. All the data comes from administrative registries and are not subject to the measurement error problems that could arise from using survey data.

For instance, 45.54% of Danish women have used contraceptives at least once by the age of 16 years old when only 10.09% of teenagers with a non-Western background (first or second

[1]In a descriptive study on second generation immigrants in Canada, Lalonde and Giguere (2008) singles out attitudes towards pre-marital sex as one where immigrants from non Western origins feel torn between their cultural heritage and the mainstream views in the country. **?**Of greater interest, however, were ratings about the perceived appropriateness of engaging in premarital sex if involved in a loving relationship. As expected, South Asian and Chinese Canadians perceived premarital sexual intercourse as less appropriate than did their Canadian peers, although this difference was more marked for South Asian Canadians. More importantly, the ratings of South Asian Canadians fell in between their South Asian parent perceived as appropriate (i.e., not appropriate) and what they perceived their Canadian peers perceived as appropriate (i.e., quite appropriate). These data provide evidence that second generation South Asians see their views regarding sexuality as falling between two sets of cultural norms.**?**

[2]As explained more in detail below, in Denmark if a teenager wants to see a GP with the specific purpose of discussing contraception, this appointment appears specifically in the data.

generation immigrants) have done so. At age 20, the numbers rise to 85.73% for natives and 40.81% for non-Western immigrants.

It is important to note that we do not focus on self-reported identity but on information about a behaviour. Identity and behaviour are two different things and evidence on one is not necessarily indicative of the other. In this paper, we prefer to look at behaviour for two reasons, (i) it captures preferences better than attitudes do and (ii) identity among young immigrants can have multiple layers. Attachment to a foreign heritage can co-exist with behaving like a native.

To address selection, we rely on cross cohort variation on schoolmates behaviour in a fashion initiated by Hoxby (2000). High school is a central place of teenagers' social life and as such a natural starting point to look at peer effects. We control for sorting into high schools by using a large set of school fixed effects and school-specific time trend. This isolates a residual variation that we argue is random. There is a difference (at the cohort level) of 0 to 4 girls between the actual number of non-Western immigrants who already took contraceptives and the number predicted by various sets of fixed effects. This is the variation we use for identification.

A key element to credibly identify peer effects, Angrist (2014), is to clearly establish which group is influencing, which group is influenced and to make sure that influence goes only in one direction. In this paper, we look at the influence of older cohorts on younger ones, assuming that younger girls are influenced by the sexual behaviour of older girls and not the other way around[3].

To recap in broad (and simplified) terms the empirical strategy: in a given school, there are certain years where slightly more/less girls from older cohorts take contraceptives than usual. If that variation induces immigrant women from younger cohorts to take contraceptives (or not), we consider it as evidence of peer effects. Whether immigrant teenagers are responsive to the behaviour of natives or of other immigrants is indicative of which group is influential in the process of cultural adaptation.

The main result of this paper is that older immigrant women have an influence on younger ones while older native women do not. An increase in contraceptive usage by non-Western immigrants in the second and third years of high school, i.e. the last years, leads to a decrease

[3]This assumption is similar to Clark and Loheac (2007) who looks at schoolmates influence on risky behaviour and to Altonji et al. (2017) who looks at siblings influence, both assuming older influences younger and not vice versa.

in usage by first year students of the same group. This effect is long lasting since probability of using contraceptives remain lower three years later. This effect does not appear when there is a change in the behaviour of native teenagers.

While the direction of the influence (positive or negative) is not the main focus of this paper, the fact that the main result is negative is interesting and intriguing by itself. To give more strength to this result, we reproduce the analysis on peer influence with native teenagers. We find that teenagers who do not have a foreign background also have a lower probability of using contraceptives when more of their native peers do so. Interestingly, first year native high-school girls respond to changes in older immigrants girls behaviour (although less strongly than to natives).

To better understand the mechanisms at play, we look at whether the change in contraceptive behaviour is explained by a change in sexual behaviour or a change in medication alone. To do so, we see if the variation in peers usage of contraceptives also influence the probability of having an abortion and the probability of being treated for chlamydia, the most common STD among young Danes. Likelihood of having had an abortion or have been treated for chlamydia by the end of high school is very low (respectively 3.27% and 3.05% probability for non-Western immigrants). Thus, it is harder to pick up an effect that is statistically significant than when looking at contraceptive usage. Although results are less precise, they clearly point to a negative effect on abortions and a null on chlamydia. We take it as evidence that changes in contraception goes through a change in sexual behaviour.

The rest of the paper is organized as follows: section 2 reviews the relevant literatures and how this paper contributes to them. Section 3 details the institutional settings and describes the data. Section 4 presents descriptive evidence while section 5 explains the identification strategy and shows balancing tests. Baseline results on peer effects are in section 6, while section 7 provides additional results on mechanisms. Section 8 shows robustness checks and section 9 concludes.

2 Literature Review and Contribution

Literature on cultural assimilation The main literature this paper contributes to is the one on the determinants of cultural assimilation. Bisin et al. (2016) have established theoretically under which conditions immigrants form an identity characterised by *conformity* or *distinction*.

Their empirical evidence points towards identity being formed as a cultural distinction mechanism. Olcina et al. (2017) model how individuals balance agreeing with their personal ideas and assimilate to average peers, the sort of trade-off we analyse empirically.

The role played by friends from school on cultural integration has been studied in Patacchini and Zenou (2016). The authors establish that vertical integration, defined as the decision by parents to transmit their cultural heritage to their children, is complementary with horizontal integration, defined as the influence of friends in schools. We focus here on the role played by various peer groups in the horizontal integration.

This paper also contributes to the discussion on who influences the behaviours of immigrants. Theoretical contributions, from network theory Verdier and Zenou (2017), evolutionary game theory Kuran and Sandholm (2008); Olcina et al. (2017) and the literature on cultural leaders Verdier and Zenou (2018) have studied the dynamics of preferences and behaviours. In Kuran and Sandholm (2008); Olcina et al. (2017), a minority individual is paired with another agent and has to decide whether or not to adjust her behaviour. Verdier and Zenou (2018) focuses on the role of cultural leaders (influential institutions in their communities) on the dynamics of cultural integration. Olcina et al. (2017) looks at the role of social networks structure on the dynamics of cultural assimilation. This paper provides empirical evidence to complement these theoretical works.

In relation to models using evolutionary game theory, this paper looks at whether immigrants would try to conform with both other immigrants and natives when paired with them. In relation to the models derived from network theory, we investigate if both natives and immigrants can have an influential role. The approach is methodologically different, in the sense that we do not model the network. We rely instead on an exogenous shock to the behaviour of several distinct groups and see who the population of interest is responsive to.

Literature on peer effects This paper also contributes to the vast literature on peer effects. The objective of studies in this literature is to develop an empirical strategy to assess if an influential group influences an influenced group about a specific behaviour. Interactions at the school are a natural candidate for such studies. Angrist and Lang (2004); Ballatore et al. (2018) have for instance respectively looked at the effects of minority students in the US and immigrant students in Italy on the academic performances of non-minority/natives. While results appear small and short lived in the US, they are larger (and negative) in the case of Italy.

A popular methodology has been to rely on cross cohort variations in peer characteristics. The idea is to control for sorting into schools by using a large set of fixed effects, namely school FE, cohort FE and eventually school specific time trend. This allows to see which peers characteristics influences performance at school Hoxby (2000); Black et al. (2013), chosing a STEM major at university Brenoe and Zolitz (2018) or female labour supply decision at adulthood Olivetti et al. (forthcoming). We adopt this strategy with a little twist. To avoid the reflection problem, Manski (1993), and follow the guideline established in Angrist (2014), we clearly define a group that is influential but is not influenced in return. Following Clark and Loheac (2007); Altonji et al. (2017), this group is composed of older students in the same school.

Risky behaviours in the teenage population has been a particular topic of interest. Argys and Rees (2008) studies the effect of having older schoolmates in your cohort. They rely on variation in the age at which other students start kindergarten. They find a positive effect on the probability for young women to use illicit substance, so does Altonji et al. (2017) when focusing on older siblings rather than schoolmates. Clark and Loheac (2007) look at substance use and the effect of lagged peers behaviour, from older cohorts. We use a similar structure of peers influence in this paper. Card and Giuliano (2013) look in particular at sexual initiation of teenagers and find that peers have a very strong effect, in particular for young women. Many of these papers point to older schoolmates having influence on younger peers and, to influence them to engage in risky behaviours. This gives support to our strategy of using older schoolmates as role models. Our results however, are in contrast with theirs, as we find a negative effect on sexual behaviour.

The closest paper to ours is Merlino et al. (forthcoming), where the authors use the same identification strategy to investigate a (relatively) similar question. The objective of this paper is to see if an increase in exposure to peers from a different racial background in childhood increases the likelihood of being married to someone from that ethnicity later in life. Using the wave 4 of the Add dataset, they find positive effects.

3 Institutional Settings and Data

3.1 Information on schools

After grade 9 (the end of compulsory education), students can choose to enter academic high school or a vocational program. This paper focuses on women, who enter one of the four major types of academic high school: general (STX), business (HTX), two year general (HF) or technical (HHX)[4]. Before 2005 the general high school was divided into a language and a math track. After 2005 the two tracks are combined and students choose subjects more freely (thus, the cohort size increases from 2005). A school is defined as one type of high school in one school[5].

High school takes three years (except from the two year general high school) and the average age for starting high school is 16. High school represents a change in the peer environment because it implies a new school with teenagers from different lower secondary schools. Thus, new and older cohorts is a mix of teenagers from a woman's own lower secondary school and from other nearby lower secondary schools. Table 1 shows the distribution of school types (both at the program and student level) together with information on the share non-Western immigrants.

Table 1 here

We follow 213,346 students (natives and first/second generation immigrants) in 643 schools. Most of them (79.65%) are in general (STX) programs and relatively few are in HF and HTX. On average in the entire sample, 6.04% of students are non-Western immigrants. This share is lowest in HF (2 years general) programs, 5.55%, and highest in STX (combined) programs, 7.17%. There appears to be an increase in the share of non-Western immigrants over time, the proportion in combined STX programs after 2005 is larger than the two separate components of the program (Language and Math) before 2005.

Table 2 here

Table 2 breaks down the sample by origin. Panel A shows how many women are from a Western versus a non-Western background. Obviously the largest share of teenagers attending

[4] At the end of the 9^{th} grade, students can also decide to take an optional 10^{th} grade and postpone their entry into high school. We focus on the year of entry in high school after 9^{th} or 10^{th} grade.

[5] Different types of high school can be organized in the same building, but they are still referred to as different schools. This is mostly the case for the language and math track in the general high school.

Danish schools is made of natives and immigrants from a Western background, 94.34%. Non-Western immigrants represent 5.66% of all women attending high school or 12,082 people. Panel B breaks down whether high school students have origins from a mostly Muslim country as it was singled out in the literature, Bisin et al. (2008), as being a characteristic affecting immigrants attitudes towards mixing with natives[6].

It is important to emphasize that we do not have information on individual religious affiliation, neither on religious practises. We just match individuals with the faith mainly practised in their origin country. 7,718 out of the 12,082 (64%) non-Western immigrants come from a Muslim country. The three largest communities among non-Western immigrants are Turkish, Pakistani and people from Bosnia-Herzegovina. They each account for more than 1,000 individuals in the sample.

3.2 Information on contraceptives and other health measures

We use five different health measures in this paper: usage of contraceptives, abortion, treatment of chlamydia, information on whether a young woman saw her GP to talk about contraception and whether she saw a gynaecologist. All this information comes from administrative registries.

Our measure of contraception includes the pill (the vast majority), rings, patches, injections, IUDs (intrauterine device) and implants. To be more precise, it includes the following entries of the ATC classification (for drugs), G03AA, G03AB, G03AC, G02BB01, G02BA and information on doctors inserting an IUD. We have data on drugs collected, not on drugs prescribed. If a drug is prescribed but not bought, it does not appear in the data. We adopt a relatively large definition of contraceptive, instead of only looking at the pill (by far the most common mean of contraception at these ages), to use all the information available to us.

Our measure does not account for emergency contraceptives. Contraceptives in Denmark are accessible to young women. They can be prescribed by a GP and not necessarily by a gynaecologist. The legal age to be prescribed contraceptives without parental approval is 18 years old. However, doctors usually prescribe them without informing parents before that age. Consultation with a GP (and therefore the prescription) is free. Young women still have to pay for the product themselves. Prices are around 10 euros for three months of the pill.

All abortions performed in Denmark are reported in administrative registries. They are free

[6]We characterize a country as mostly Muslim, if it is a member of the Organisation of Islamic Cooperation. Member states are listed in table A1.

of charge. Parental consent is necessary for abortions on teenagers below 18 years old. We have information on STDs, in particular on having been treated for chlamydia. It is the most widespread sexual disease among young Danes. It can be measured by looking at the prescription of a particular antibiotics in a particular dosage[7]. Many people do not have any symptoms of this disease, although they suffer from it. This means that our measure of chlamydia should be interpreted as having being diagnosed with chlamydia, so both having been positively tested for it or having seen a doctor following the apparition of symptoms, rather than simply having chlamydia.

Medical registries also include two informations on doctors appointments: whether a woman has had a consultation with a gynaecologist and whether a woman had an appointment with her GP specifically to talk about contraception. In Denmark, the state pays for the GP. There are fixed payments for different services. One is a standard payment for a consultation, but there is an additional amount when the consultation is about contraception. This ensures that these appointments are well reported. In the rest of the paper, consultation to a GP refers to consultation about contraception.

3.3 Additional data

There are two additional types of data used in this paper: information on (i) socio-economic conditions and family situation of young women and (ii) on their origins. The former type of variables are used to perform balancing tests and is added as controls in the main regressions. These characteristics include parents marital status, parents employment status, parents education level, parents age at birth (of their daughter) and age at which a young woman starts high school. The background characteristics are measured at age 13, before the measurement of the explanatory variables of interest.

Administrative registries contain information on country of origin for both first and second generation immigrants. We use two categories of origin, non-Western immigrants (relying on the classification established by Statistics Denmark) as opposed to Western immigrants (both native Danes and immigrants with a Western background) and Muslim origin (based on being from a country that is part of the Organisation for Islamic Cooperation) as opposed to non-Muslim origin. In what follows, *natives* refers to both natives and people without a non-Western

[7]ATC code J01FA10 with the strength 500 mg and pack size 2. The guidelines say that 1,000 mg from two pills taken right after each other is the recommended way to treat chlamydia.

background and *immigrants* refer to (1^{st} and 2^{nd} generation) individuals with a non-Western background.

3.4 Sample definition

The sample consists of women born between 1981 and 1993 who enrol for the first time in high school between the year they turn 14 and 19 and who live in Denmark as of January,1^{st} of the year they turn 13 years old. Since data on drugs is only available from 1995 to 2015, 1981 becomes automatically the lower limit and 1993 the upper one. We restrict the sample to women who enrol in high school in July through September, which is in the beginning of the school year. We only consider schools with more than 10 students (both boys and girls) in a cohort where 95 percent or more start between the year they turn 14 to 19. We do this to exclude women enrolled in very small schools and schools where most peers are not young women (19 years old being the upper limit to be characterised as young). Table A2 shows how many observations are deleted by imposing each constraint of the sample definition detailed above. These sample restrictions are similar to those imposed by Brenoe and Zolitz (2018).

4 Descriptive Statistics

4.1 Difference between behaviour of natives and immigrants

The purpose of this subsection is to see how each of the five measures differs between immigrants and natives. It justifies the use of these variables as outcomes and introduce the discussion of what exactly is measured with each of them. It also helps understanding the magnitude of the effects we find later in the paper.

Table 3 reports for all ages between 15 and 20 years old the share of natives and immigrants who have taken contraceptives at least once, who ever had an abortion, who were ever treated for chlamydia, who saw a gynaecologist at least once and who had at least one appointment with a GP to specifically talk about contraception. All these measures are cumulative. At the individual level, you can only stay at zero or go from zero to one and, at the aggregate level, it cannot decrease.

Table 3 here

What is striking from this table is that certain behaviours show very strong differences between natives and immigrants while others do not. For instance, there is a clear difference in contraceptive usage. At every age, the share of immigrants who have ever used contraceptives is between twice and five times lower than the share of natives. A similar picture emerges from appointments to the GP. Although the numbers are very close for these two categories, the correlation coefficient is only 0.76, which is high in absolute but lower than what the aggregate numbers would suggest.

There are many reasons why immigrant women who would be willing to take contraceptives do not start using them. The first that comes to mind is that they could fear that their parents find out. Talking about contraception with a doctor in the secrecy of a medical appointment is a measure more likely to capture willingness of young women. This outcome has limitations since teenagers may internalize the constraints of their environment in their decision to mention contraception with a GP. It is still an interesting complement to the outcome taking contraceptives. From table 3, immigrant women are less incline to mention contraception.

The picture is different for the outcomes having had an abortion and going to see a gynaecologist. For these ones, natives and immigrants are very similar and the prevalence of these behaviours in the general population is much more limited. Teenagers in Denmark do not see a gynaecologist to get a prescription for their contraception. As one needs a referral to see a gynaecologist, women only see one if they have been to a GP before. This outcome typically indicates some kind of disease, which could explain the little difference between natives and immigrants. It however shows that there are no striking differences in the availability of gynaecological health care between young natives and immigrants. Abortion captures unprotected sexual intercourses. There is little difference between the two groups for this measure.

The probability of being treated for chlamydia is also very different between the two groups, more or less three times higher for natives than for immigrants. Although, there is a caveat with this outcome, the spread of STDs is related to having more partners and table 3 points towards immigrants and natives having different sexual behaviours.

Putting together these different elements, using contraceptives for natives is somehow a norm in the sense that almost every young woman uses them. This norm is not shared by immigrants. The latter group seems much less eager to use contraceptives. For these reasons, our main outcome is usage of contraceptives. When administrative data on drug

usage is crossed with surveys on sexual behaviour, the correlation between starting to take contraceptives and becoming sexually active is very high (0.9). From the perspective of an economists/econometrician, observing usage of contraceptives in administrative data is a good signal of individual sexual behaviour. Moreover, contraception can also be seen as a woman empowerment device Bailey (2006); Goldin and Katz (2002) and is in itself a meaningful consumption.

Although immigrant teenagers use less contraceptives and that it points towards being less sexually active, a non-negligible share engages in unprotected sex and suffers from STDs. This population can influence other immigrants. Note that the influence could go both ways, other immigrants may feel liberated by observing their peers having more open relations. They can also feel more distant from women with the same background who do not follow the rule of the community. They can also move away from what is perceived as risky behaviours. Having access to additional information on medication, abortions and STDs, allows us to say more about mechanisms. We use the remaining outcomes to understand what is at play behind the effect on usage of contraceptives. Table 4 shows the same information by school grade. The picture is substantially the same.

Table 4 here

4.2 Sample characteristics

In tables 5 and 6, we produce two sets of descriptive statistics about the sample. The first one, compares the mean values of the control variables for young native and young immigrant women. This allows to say how similar/different the two populations are. The second set of descriptive statistics look at the same information in the schools where immigrant women and natives study. This allows to compare the environment in which the two groups live.

Table 5 here

The socio-economic conditions of the two groups are different. Unemployment rate is much higher and education much lower for immigrant fathers, 9% versus 2% for unemployment for immigrants and native fathers and 150 versus 72 months of education for the same groups.

Young immigrants also have different role models when they look at their mothers. The share of immigrant mothers out of the labour force is 48% when it is only 8% for natives.

Immigrant mothers are also much less educated than natives, 66 months versus 153. Comparison between the two groups may not give an accurate picture, but it is interesting to observe that native mothers are on average slightly more educated than native fathers (+ 3 months), while immigrant mothers have 6 months less education than fathers. Immigrant parents, both mothers and fathers, are also younger at the birth of their daughter, than natives. Young women, both natives and immigrants start high school at the same age.

When one compares cohort characteristics of the schools where both groups study: immigrant teenagers attend larger schools, 169 vs 155 students, with more immigrants, 15% versus 5% of immigrants girls and 14% versus 6% of immigrant boys. Immigrant peers have less educated parents, 9 months of education less for both mothers and fathers compared to native parents.

Usage of contraceptives among natives and immigrants is the same in the schools in which natives and immigrants go (36% versus 37% for native women of older cohorts in natives and immigrant schools, 7% versus 8% for older immigrant women).

Table 6 here

5 Identification Strategy

5.1 Empirical challenges and how to address them

How to account for sorting into schools? Students sort into schools, therefore any regression on peer characteristics is likely to confound what drove a student to start high school in a particular place in a particular year and peers influence. Our strategy to account for sorting into schools, consists in approximating the sorting decision with a large set of fixed effects. In particular, we look successively at the inclusion of (i) school fixed effects, (ii) school and time trend (common to everyone), (iii) school effects with a school specific time trend. In the spirit of the Frisch Vaugh Lowell theorem, the residual variation that is not explained by fixed effects is regressed on peers behaviour. Usage of contraceptives can be predicted up to a certain extent by fixed effects. The identifying assumption is that what remains is as good as random.

An alternative way to think about the same identification strategy, is to elicit which groups are being compared to identify peer effects when using each set of regressors. When school fixed effects are used, we compare students from the same school but different cohorts. When school and cohort fixed effects are used, we compare the changes over time between schools, in a fashion

similar to a difference in difference. When school and cohort fixed effects are used with a school linear trend, we compare the evolution of changes over time between schools.

How to account for the reflection problem? The objective is to find a group that influences the behaviour of first year high-school girls and which is not influenced back. There is a trade-off between finding a relevant group of peers (with whom there is intense interaction) and not falling in the reflection problem.

Our solution is to focus on older girls (in year 2 and 3) in the same school. This corresponds to the behavioural assumption that younger girls are influenced by the sexual behaviour of older ones and not vice versa. To ensure that influence goes in one direction, we focus on the behaviour of teenagers in older cohorts prior to the new first years joining the school.

A limitation is that interactions with these older girls may be less intense than with teenagers from the same cohort. This is why as a robustness, we focus on girls in the same cohort but only on their behaviour prior to joining high school.

5.2 Evidence on the variation being used

The variation we use is residual, in the sense that we look at peers behaviour conditional on a large set of fixed effects. Thus, is not straightforward to see the magnitude in the variation used to identify peer effects. Compared to what is predicted by the fixed effects, how many more/less peers take contraceptives?

To obtain this information, we do the following: we collapse the information on the number of girls who use contraceptives at the school/cohort level. We do that both for older girls in the same school and girls from the same cohort. We regress this collapsed number on school fixed effects and school specific time trend, the most demanding specification we use later on. The residuals of this regression is the number of girls (who use contraceptives) who were not "anticipated", based on information captured by fixed effects, when one decided to join a certain school a certain year. We plot the residuals of the predicted value for older immigrant teenagers in figure 1 and older native teenagers in figure 2.

Figure 1 here

Figures 1 and 2 plot the histogram of the residuals together with a fitted normal distribution. When looking at immigrants from older cohorts, we see that most of the residual variation is

of the order 0 to 4, meaning that most of the times less than four girls take (or do not take) contraceptives from what could be predicted by fixed effects. In appendix, we show the residual variation for peers from the same cohort. So, to isolate peer effects, we use the fact that up to four immigrant teenagers from older cohorts do or do not take contraceptives compared to what could have been predicted by the use of fixed effects. This means that we narrow down the influence to very few (potentially close) peers.

Figure 2 here

The residual variation for native girls is plotted in figure 2. The order of magnitude of the residual variation is larger since much more native young women take contraceptives, both because numerically more natives attend high-school and because usage of contraceptives is more prevalent in this population. For girls from the older cohorts, there are more or less 0 to 50 young women who take contraceptives who could not have been predicted by relying on fixed effects. When assessing the influence of native schoolmates, we use a broader magnitude of change among peers.

5.3 Balancing tests

The identification strategy implies that characteristics that can explain the choice of school ($X_{i,c,s}$) should be uncorrelated to native and immigrant peers behaviour, conditional on the FE used to control for sorting. This motivates the following tests: regress each $x_{i,c,s}$ in $X_{i,c,s}$, meaning each of the variables used as controls, on peers behaviour, $\ddot{y}$ and the set of fixed effects used to control for sorting :

$$x_{i,c,s} = \alpha + \beta \ddot{y}_{c,s} + \lambda_s + \rho_s * c + u_{i,c,s} \tag{1}$$

and test $H_0 : \beta = 0$. In equation 1, s stands for schools, c for cohorts and i for individuals, (λ_s) school fixed effects and ($\rho_s * c$) school-specific time trends. Under no sorting, we should not reject H_0. For instance, teenagers whose mother have a low level of education ($x_{i,c,s}$) can sort into schools with lower usage of contraceptives ($\ddot{y}$) generating a correlation between the two. If sorting is accounted for by using fixed effects, incorporating them should shrink this correlation to zero.

We run as many regressions as there are controls, definitions of influential groups and

measures of peer behaviour. To measure behaviour, we want both to account for (i) the prevalence of contraceptive usage in a group and (ii) the size of that group. We use three measures: the raw number of women taking contraceptives, the log of that number and the share of women in the population of reference conditional on group size. In the third case, we use size of the group as a separate regressor.

So, we run 17 regressions (number of controls) three times (number of measures), amounting to 51 specifications. We run them five times (number of peers behaviour), i.e. when we look at the usage of immigrant women in older cohorts, immigrant women from the same cohort, native women in older cohorts, native women in older cohorts and the composition of a cohort. In the last one, we look at the number of immigrants in the cohorts of first year students, its log and its share of all first year female students. This is because we also use size of the immigrant group as a regressor when prevalence of behaviour is measured as a share.

This amounts to 205 regressions. This has to be done separately for the peers of immigrants and of natives (since they do not go to exactly the same schools). This makes a total of 510 regressions. Since we run many regressions, some will necessarily reject H_0. Table 7 reports how many times the null hypothesis is rejected at the 10, 5 and 1% level. The details of the regressions can be found in tables A3, A4 and A5.

Table 7 here

Overall, our rate of rejection is higher than it should be. We reject 14.9% of the time when we should reject 10%, 8.8% when we should reject 5% and 2.15% when we should regress 1%. This picture is not so different when looking at native and immigrant peers. There is over-rejection for all significance levels and the numbers of rejections are very close for the 10% level (39 for immigrants and 37 for natives).

A closer look at how the rejection rate breaks down by specifications gives a more optimistic picture. When focusing separately on the peers of natives and those of immigrants, there appears to be one specification which systematically over-rejects. For native peers, this is when we look at the influence of other native women from older cohorts. For immigrants, this is when we look at other immigrants from the same cohort. If we take these specifications out of the calculation, we return to the expected percentage of rejection for each significance level.

By considering table 7 without certain specifications, we do not cherry pick information. For each group of specification, we run 51 regressions. So, under the null, one should already expect

rejection rates to correspond to the theoretical predictions for each subgroup. These results mean that we should be careful when interpreting the results of the influence of immigrant women from the same cohort on other immigrant teenagers and of older natives on younger ones.

6 Empirical Analysis

The strategy consists in regressing a dummy variable for having used contraceptives at least once by the end of the first, second or third year of high school ($y_{i,c,s}^{c+a}$) on a series of fixed effects that control for sorting ($\lambda_{c,s}$), individual characteristics ($X_{i,c,s}$) and peers behaviour ($\ddot{y}_{c,s}$). This estimated equation is:

$$y_{i,c,s}^{c+a} = \alpha + \beta \ddot{y}_{c,s} + \gamma X_{i,c,s} + \lambda_{c,s} + \epsilon_{i,c,s} \tag{2}$$

where subscript c refers to cohort, s to school, i to individuals and superscript a to an additional year of high school, meaning $a \in \{0, 1, 2\}$. The empirical choices boil down to (i) the choice of the set of fixed effects to control for sorting, (ii) the measure of peers behaviour (both how it is measured and which group to measure it for) and (iii) the variables which should serve as individual controls. It is estimated separately on immigrant and native teenagers.

Sorting is controlled for by including sequentially school fixed effects $\lambda_{s,c} = \omega_c$, school fixed effects and a time trend $\lambda_{s,c} = \omega_c + (c + a)$ and school fixed effects with a linear school specific trend $\lambda_{s,c} = \omega_c + \rho_s * (c + a)$. In the baseline analysis, influential peers are separately native and immigrant women from the second and third cohorts. Individual controls include the variables listed in table 5 and a dummy for being a first or a second generation immigrant. Equation 1 is estimated with linear least squares and standard errors are clustered at the school level.

Behaviour is measured as share of women in the group who has used contraceptives (together with a control for group size), raw number of women in the group who has used contraceptives and log of that number. The coefficients should be interpreted as follows, what variation (in percentage points) in the probability of using contraceptives would arise if: all women in the group were to take contraceptives (for a given group size), one more teenager with the characteristics of the group (native or immigrant) was to take contraceptives and what would happen if the number of teenagers with the characteristics of the group was to double (level -

log regression).

6.1 Influence on non-Western immigrants

Regressions where the influential group is made of older immigrants and the influenced group is made of first year high-school teenagers with an immigrant background is shown in table 8. The first two columns report results from specifications where only year trends and year trends together with individual controls are included. Those are the naive estimators which do not account for sorting. It is hard to draw a picture from them since their sign is different depending on how peers behaviour is calculated. Thus, the direction of the bias is not straightforward.

Table 8 here

The causal effect (estimated in the other columns where we account for sorting), however, is clearly negative, of large magnitude and long-lasting. The sign is negative for all measures of peers behaviour and sets of fixed effects used to account for sorting, in columns 3 to 6. Doubling the number of immigrants using contraceptives leads to a 5.1 percentage points decrease in the probability for an immigrant to take contraceptives in the first year (for a mean outcome of 13.63%), so a reduction of 37%. This is very large in magnitude, although lower than Card and Giuliano (2013) who found having friends starting to have sex leads to an almost 50% increase in the probability to become sexually active.

Under the most demanding specification, the coefficients are not significant, or only marginally, when peers behaviour is measured by the number of students using contraceptives. The effect is not precisely estimated because one extra immigrant taking contraceptives is a small change. Although the coefficients are stable after one, two or three years, the mean outcome increases between the beginning and the end of high-school. The effect in percentage points is similar but it represents in proportion less and less with time showing that the effect dies out. We take these results as evidence that immigrant women are influenced by other immigrant peers and that this influence is negative.

In table 9, we reproduce the empirical analysis to study the influence of older native students on younger immigrant ones. The picture is very different from the one that emerged in the previous table. The naive estimators in column 1 and 2 are positive while the causal estimates are zero. When measured with fraction of usage and number of teenagers having used contraceptives,

the estimates are small in magnitude and insignificant. The sign switches between specification when the regressor is a share showing that the estimates are not different from zero. Overall, they do point towards a negative effect and are even marginally significant after two years for the log measure but they are very small.

One cannot compare the effects of doubling the number of natives and immigrants taking contraceptives. The two groups have too different sizes. However, if all natives were to take contraceptives, immigrants would not respond (panel A of table 9), while they would if all immigrants suddenly took contraceptives. We take it as evidence that young immigrants are not influenced by their native schoolmates.

Table 9 here

A potential criticism to our approach is that so far we pool together all non-Western origins as if it was a homogeneous group. We should make a difference between immigrant groups based on how culturally close they are. It is however too restrictive to focus on peers from the same country of origin as there are too few in our sample and residual variation is likely to be very small. We thus create a dummy for coming from a mostly Muslim country and reproduce the analysis to study Muslim to Muslim (table 10) and non-Muslim to Muslim (table 11) influence. Table 10 confirms the results of table 8. The coefficients are negative and compared to table 8 are even larger in terms of size, making it statistically significant for all specifications for year 1 and 2 and almost all for year 3. An additional Muslim girl taking the pill is associated with a 1.82 percentage points decrease in the probability for younger girls to take contraceptives in the first year. Similarly to table 9, there does not seem to be any influence from older non-Muslim students on younger Muslim ones.

Tables 10 and 11 here

6.2 Influence on native teenagers

We reproduce the analysis on peer influence for natives. This allows us to see if the negative result on immigrants, i.e. a lowering of the probability to take contraceptives, is atypical or if it also holds for the majority group. The results on natives to natives influence are reported in table 12. They also clearly show a negative effect. If all native girls in older cohorts were to take contraceptives, this would reduce the probability for a first year native of 7.11 percentage

points, which represent a 12% decrease. The magnitude is lower than for immigrants but the two groups have very different mean usage in the first place so it is not expected that the effect is quantitatively the same. They show that the negative effect is consistent across groups.

Table 12 here

We also enquire whether there is influence of older immigrant women on natives. Results of this analysis are reported in table 13. While immigrant peers are less influential than their native counterparts, younger Danes without foreign background are not closed to the influence of immigrants. The effect is negative and significant for the first year of high school. This asymmetric result compared to how immigrants see natives is not driven by sample size since the coefficients from table 13 are larger than those from tables 9 and 11. We take it as evidence that although less clear cut, there is influence of immigrant peers on natives. There is therefore a difference between how immigrants treat the information from natives and how natives treat the information form immigrants.

Table 13 here

7 Evidence on Mechanisms

Once this negative result on usage of contraceptives is established, it is important to dig into explaining it. In particular, we are interested to see if immigrant change their choice of contraception only because they change their medication or because they change their sexual behaviour.

To do so, we reproduce the baseline analysis but instead of using contraceptive usage as an outcome, we look at probability of having an abortion, probability of being treated for chlamydia and to have had a consultation with a GP. If medication alone is affected by peers behaviour, we expect to see a negative effect on the probability of having a consultation but no effect on abortion and chlamydia (and potentially a positive effect on abortion). If sexual behaviours change, one should expect a decrease in the probability of having an abortion and/or of being treated for chlamydia.

Results on the influence of older immigrants on younger ones are reported in table 14. The table is divided in three groups of columns, each showing the results for one of the school year. To not clutter the tables, we do not report the naive estimates that do not account for sorting.

Table 14 here

There is a clear negative effect on the probability of having a consultation with a GP. A doubling of the number of immigrant taking the pill leads to a 3.39 percentage points decrease in the probability to have a consultation in the first year. This result is not surprising as this outcome is highly correlated with usage of contraceptives. It acts nevertheless as an indirect robustness check.

We also interpret the effect on abortion to be negative. Although most coefficients are not statistically significant, all specifications and all measures of peers behaviour produce a negative coefficient. The coefficients themselves are relatively large since doubling the number of older immigrant taking contraceptives causes a 0.31 percentage points decrease in the probability of having an abortion in the first year of high-school, for a mean outcome of 0.94% (among immigrants in the first year of high school).

We interpret the effect on chlamydia to be null. All specifications but one are not statistically significant but most importantly the sign of the coefficients change with the specification and the measure of peers behaviour used, both between and within years. Our conclusion is that peers behaviour lower the probability to take contraceptives partially by changing immigrant sexual behaviour, at least measured by the probability of having an abortion and not only through the effect on medication.

Table 15 here

We then look at the effects of native peers on younger immigrants to see if the absence of influence by native schoolmates is confirmed when one looks at other outcome variables. Results are reported in table 15 and point to the absence of effect of native peers. Almost all coefficients are statistically insignificant but most importantly they change sign between measures and specifications and are very small in magnitude. This last concern is especially relevant when peers behaviour is measured with the number of women using contraceptives. For the outcomes consultation and abortion, the sign of the coefficient changes between the log and the share measures which we take as indicative of a null effect. For chlamydia, the sign of the coefficient seems positive when measured with logs but change sign between specifications when measured with a fraction. We also interpret it as evidence of no effect. This reinforces the conclusion on the absence of influence of native peers.

To make sure that the patterns we observe are not exclusive to immigrants, we reproduce this analysis focusing this time on natives to natives influence. Results are reported in table 16. The results appear negative for the outcome consultation confirming the picture depicted in table 12 and that peer effects among immigrants are not atypical. If all older natives were to take contraceptives, the probability of having a consultation for a younger native would decrease by 4.13 percentage points (for a mean outcome 6.39%). The result for abortion point to a negative effect more pronounced in the second and third years of high school. The results for chlamydia appear highly significant statistically when peers behaviour is measured by the number of women taking contraceptives. However, they change signs between specifications, and also when measured with logs. The sample size is very large and very small differences can be statistically different from zero. It is thus not possible to detect a consistent sign for the outcome chlamydia.

Table 16 here

Our take-away is that peers influence go, at least partially, through a change in sexual behaviour (in particular a decrease in the probability of having an abortion). This channel is not atypical of immigrants but goes only through immigrant influence on other immigrants.

8 Robustness Checks

The main robustness check we conduct, is to see if the results change when instead of looking at older peers, we look at the behaviour of peers from the same cohort. We isolate a residual variation in the (pre high-school) behaviour of first year students and see how it influences their schoolmates in the first, second and third years of high school.

Results are reported in table 17 for the influence of immigrants and in table 18 of natives on immigrants. They confirm the picture established when using older girls as potential role models. Influence from other immigrants cause a decrease in the use of contraceptives while changes in the behaviour of natives have no effect.

Tables 17 and 18 here

9 Conclusion

In this paper, we look at teenage peers influence over the decision to take contraceptives. Since using contraception is almost universal in the population of teenage natives in Western Europe but not among young immigrants with a non-Western background, we use it as a measure of cultural adaptation. We exploit residual variation in usage of contraceptives by older schoolmates to identify peer effects. Looking at the separate influence of native and immigrant peers is indicative of who has influence in immigrants process of cultural adaptation.

The more older immigrant peers take contraceptives, the less younger ones use them. This negative effect is not atypical since younger natives also respond negatively to an increase in contraceptive usage by older native schoolmates. Immigrants are however closed to the influence of natives, in the sense that they do not change their behaviour in response to what older natives do. This asymmetric influence does not hold in the population of young natives who are influenced by members of their own groups and also by immigrants.

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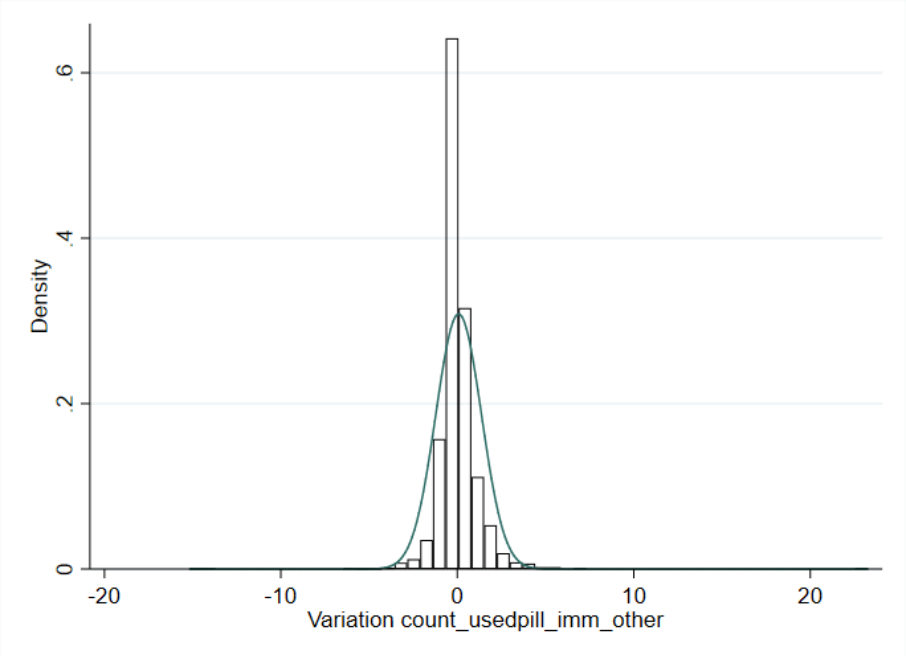
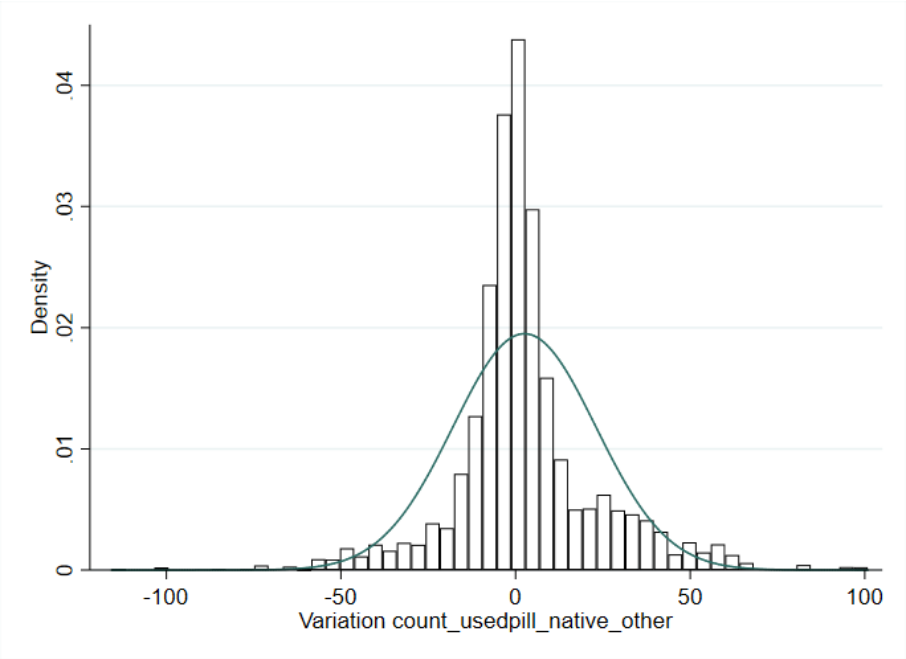
Figure 1: Residual variation for identification (immigrant women from older cohorts)



Note : This graph plots the residuals of a regression of the number of immigrant women from older cohorts (by school/cohort) who have taken contraceptives on school fixed effects and a school specific time trend. The residual is the difference between the predicted and actual numbers (at the school/cohort level). The curve is a fitted normal distribution.

Figure 2: Residual variation for identification (native women from older cohorts)



Note : This graph plots the residuals of a regression of the number of native women from older cohorts (by school/cohort) who have taken contraceptives on school fixed effects and a school specific time trend. The residual is the difference between the predicted and actual numbers (at the school/cohort level). The curve is a fitted normal distribution.

Table 1: Distribution of schools - program and student level

	Program Level	School level			
	% schools	% schools	% non Western (mean)	% non Western (std)	Nb students
STX - General (Math)	21.26	19.24	5.72	7.75	41,043
STX - General (Language)	21.11	21.70	4.53	5.94	46,290
STX - General (Combined)	22.50	38.71	7.17	8.03	82,576
HF - 2 years General	5.24	0.66	5.55	6.37	1,405
HTX - Business	15.10	3.52	6.79	7.01	7,512
HHX - Technical	14.79	16.18	5.61	5.34	34,520
Overall			6.04	7.20	213,346
Nb observations	649		213,346		

Note: This table reports the distribution of programs and students among schools, together with information on the share of non-Western immigrants. The first column reports the distribution of programs at the school level. The second column reports the share of students going to each type of school, while the third and fourth columns report the mean and standard deviation of the share of non-Western immigrants. The last column reports the number of students going to this program. The second row should be read as follows, 21.11% of the 643 schools are General (STX) Language schools. 46,290 students, so 21.70% of the entire sample attend these schools, 4.53% of them are non-Western immigrants (first and second generation), for a standard deviation of 0.0775

Table 2: Distribution of Immigrants - By Origin country and Religious Affiliation

	Number of obs	% of sample
Panel A: Western/non-Western background		
Western Background	201,264	94.34
non-Western immigrants	12,082	5.66
Panel B: Religious Affiliation		
non-Muslim	205,628	96.38
Muslim	7,718	3.62
Panel C: Country of origin - non-Western		
Yugoslavia	541	4.48
Turkey	2,368	19.60
Morocco	379	3.14
Somalia	275	2.28
Afghanistan	572	4.73
Sri Lanka	668	5.53
Iraq	839	6.94
Iran	695	5.75
China	167	1.38
Lebanon	943	7.80
Pakistan	1,068	8.84
Vietnam	601	4.97
Russia	151	1.25
Bosnia-Herzegovina	1,073	8.88
Panel C: Country of origin - Western		
Denmark	199,323	99.04
Iceland	162	0.08
Netherlands	161	0.08
Poland	576	0.29
Germany	251	0.12

Note: This table reports the distribution of students by origin, both the number of observations and the share of the sample. Panel A looks at the distinction Western/non-Western background. Panel B breaks down the population between originating from a mostly Muslim country or not. Panel C breaks down country of origin for students with a non-Western background and panel D does the same for students with a Western background. This table only reports countries from which more than 150 students are observed.

Table 3: Outcomes - Difference Natives and Immigrants by age

Age	15	16	17	18	19	20
Contraception, natives	0.2484	0.4554	0.6266	0.7424	0.8116	0.8573
	(0.43)	(0.50)	(0.48)	(0.44)	(0.39)	(0.35)
Contraception, immigrants	0.0478	0.1009	0.1669	0.2506	0.3335	0.4081
	(0.21)	(0.30)	(0.37)	(0.43)	(0.47)	(0.49)
Abort, natives	0.0038	0.0089	0.0160	0.0255	0.0373	0.0491
	(0.06)	(0.09)	(0.13)	(0.16)	(0.19)	(0.22)
Abort, immigrants	0.0020	0.0049	0.0102	0.0226	0.0378	0.0545
	(0.04)	(0.07)	(0.10)	(0.15)	(0.19)	(0.23)
Chlamydia, natives	0.0115	0.0247	0.0484	0.0813	0.1168	0.1511
	(0.11)	(0.16)	(0.21)	(0.27)	(0.32)	(0.36)
Chlamydia, immigrants	0.0045	0.0078	0.0137	0.0250	0.0354	0.0489
	(0.07)	(0.09)	(0.12)	(0.16)	(0.18)	(0.22)
Consultation, natives	0.2362	0.4251	0.5777	0.6792	0.7418	0.7868
	(0.42)	(0.49)	(0.49)	(0.47)	(0.44)	(0.41)
Consultation, immigrants	0.0573	0.1138	0.1805	0.2602	0.3398	0.4083
	(0.23)	(0.32)	(0.38)	(0.44)	(0.47)	(0.49)
Gynaecologist, natives	0.0127	0.0251	0.0431	0.0655	0.0924	0.1232
	(0.11)	(0.16)	(0.20)	(0.25)	(0.29)	(0.33)
Gynaecologist, immigrants	0.0161	0.0252	0.0415	0.0573	0.0821	0.1128
	(0.13)	(0.16)	(0.20)	(0.23)	(0.27)	(0.32)

Note: This table reports information on the sexual behaviour of teenagers and young women (who went to high school) in Denmark. It details the share who have used contraception at least once for all ages between 15 and 20 years old, together with the share who ever had an abortion, were ever treated for chlamydia, ever saw a gynaecologist or had a consultation with their GP to specifically talk about contraception. The category natives relates to young women without foreign background, while the category immigrants refers to non-Western immigrants (first and second generation).

Table 4: Outcomes - Difference Natives and Immigrants by school level

Years in high school	Natives		Immigrants	
Contraception, year 1	0.5639	(0.50)	0.1363	(0.34)
Contraception, year 2	0.6993	(0.46)	0.2105	(0.41)
Contraception, year 3	0.7834	(0.41)	0.2926	(0.45)
Abort, year 1	0.0137	(0.12)	0.0094	(0.10)
Abort, year 2	0.0222	(0.15)	0.0187	(0.14)
Abort, year 3	0.0332	(0.18)	0.0327	(0.18)
Chlamydia, year 1	0.0394	(0.19)	0.0116	(0.11)
Chlamydia, year 2	0.0684	(0.25)	0.0188	(0.14)
Chlamydia, year 3	0.1030	(0.30)	0.0305	(0.17)
Consultation, year 1	0.5250	(0.50)	0.1529	(0.36)
Consultation, year 2	0.6419	(0.48)	0.2245	(0.42)
Consultation, year 3	0.7147	(0.45)	0.2980	(0.46)
Gynaecologist, year 1	0.0348	(0.18)	0.0329	(0.18)
Gynaecologist, year 2	0.0549	(0.23)	0.0493	(0.22)
Gynaecologist, year 3	0.0796	(0.27)	0.0692	(0.25)

Note: This table reports information on the sexual behaviour of teenagers and young women in Denmark. It details the share who have used contraception at least once by the beginning of the three different years of high school. It also shows the share who ever had an abortion, were ever treated for chlamydia, ever saw a gynaecologist or had a consultation with their GP to specifically talk about contraception. The category natives relates to young women without foreign background, while the category immigrants refers to non-Western immigrants (first and second generation).

Table 5: Background variables - Individual level

	Natives		Immigrants	
Parents married or cohabiting	0.74	(0.44)	0.79	(0.40)
Unemployed, mom	0.03	(0.16)	0.11	(0.31)
Out of the labour force, mom	0.08	(0.27)	0.48	(0.50)
Missing employment status, mom	0.01	(0.09)	0.02	(0.14)
Months of education, mom	153.45	(36.54)	66.34	(72.79)
Education above high school, mom	0.40	(0.49)	0.10	(0.30)
Missing education, mom	0.02	(0.15)	0.50	(0.50)
Age at birth, mom	28.39	(4.60)	25.38	(6.06)
Missing birth information, mom	0.00	(0.02)	0.01	(0.11)
Unemployed, dad	0.02	(0.14)	0.09	(0.29)
Out of the labour force, dad	0.04	(0.20)	0.31	(0.46)
Missing employment status, dad	0.04	(0.19)	0.11	(0.32)
Months of education, dad	150.85	(47.24)	72.78	(77.11)
Education above high school, dad	0.33	(0.47)	0.14	(0.34)
Missing education, dad	0.06	(0.23)	0.50	(0.50)
Age at birth, dad	30.76	(6.36)	27.84	(10.67)
Missing birth information, dad	0.01	(0.11)	0.08	(0.28)
Age at high school start	16.14	(0.73)	16.09	(0.85)
Nb observations	201,264		14,284	

Note: This table reports average characteristics together with their standard deviation for young women both without a foreign background (natives) and who are first or second generation immigrants. Characteristics are expressed at the individual level, meaning the row "Age at birth, mom" should be read as follows, the average age at birth of mothers of the 201,264 natives is 28.39 years old when it is 25.28 years old for the 14,284 immigrants.

Table 6: Background variables - Cohort characteristics

	Natives		Immigrants	
Fraction employed mother	0.84	(0.07)	0.79	(0.11)
Fraction employed father	0.82	(0.07)	0.77	(0.10)
Avg. Months of educ. Mother	148.01	(11.44)	139.33	(17.06)
Fraction above high school mother	0.41	(0.14)	0.38	(0.13)
Avg. Months of educ. Father	137.94	(11.81)	129.14	(16.85)
Fraction above high school father	0.33	(0.13)	0.31	(0.11)
Average age at birth, mom	28.05	(1.10)	27.91	(1.06)
Average age at birth, dad	28.68	(1.32)	28.44	(1.30)
Fraction, parents married or cohabiting	0.70	(0.07)	0.68	(0.07)
Fraction missing employment status, mother	0.03	(0.04)	0.03	(0.06)
Fraction missing employment status, father	0.11	(0.05)	0.13	(0.07)
Fraction missing education status, mother	0.06	(0.05)	0.11	(0.09)
Fraction missing education status, father	0.14	(0.06)	0.19	(0.09)
Fraction missing information, mom	0.01	(0.01)	0.01	(0.01)
Fraction missing information, dad	0.08	(0.04)	0.09	(0.04)
Fraction of boys immigrants	0.06	(0.07)	0.14	(0.13)
Fraction of girls immigrants	0.05	(0.07)	0.15	(0.15)
Average students	155.64	(94.15)	169.09	(102.89)
Frac used the pill in grade of girls, natives	0.36	(0.14)	0.37	(0.13)
Frac used the pill in grade of girls, immigrants	0.08	(0.18)	0.07	(0.14)
Frac used the pill older girls, natives	0.57	(0.18)	0.56	(0.18)
Frac used the pill older girls, immigrants	0.16	(0.23)	0.14	(0.17)

Note: This table reports average characteristics together with their standard deviation for the cohorts where young women, both without a foreign background (natives) and who are first or second generation immigrants, study. The row average students should be reads as follows: in cohorts where there are native students there are on average 155.64 students (both men and women) in a cohort, while in cohorts where there are immigrant students, there are on average 169.09 students.

Table 7: Summary of balancing tests

Category	Number of regressions	Number of rejections		
		10% level	5% level	1% level
Cohort Composition - Immigrants	51	9	2	0
Immigrant women in same grade - Immigrants	51	15	11	3
Immigrant women in older grades - Immigrants	51	3	2	0
Native women in same grade - Immigrants	51	5	2	0
Native women in older grades - Immigrants	51	7	2	0
Cohort Composition - Natives	51	6	5	1
Immigrant women in same grade - Natives	51	3	2	0
Immigrant women in older grades - Natives	51	7	4	0
Native women in same grade - Natives	51	7	5	1
Native women in older grades - Natives	51	14	10	6
Cohort Composition	102	15	17	1
Immigrant women in same grade	102	18	13	3
Immigrant women in older grades	102	10	6	0
Native women in same grade	102	12	7	1
Native women in older grades	102	21	12	6
Fraction	170	22	11	1
Log	170	27	16	5
Numbers	170	27	18	5
Immigrants	255	39	19	3
Natives	255	37	26	8
Total	510	76	45	11

Note: This table provide a summary of the balancing tests. For each grouping of regressions, i.e. each row, the second column reports the number of regressions performed and in the following columns the number of rejection of H_0 at the 10, 5 and 1% significance level.

Table 8: Influence of older immigrant women on immigrant teenagers - Contraceptives usage

			Panel A: Fraction of usage			
Year 1	0.105***	0.0918***	-0.153***	-0.157***	-0.153***	-0.283***
	(0.0238)	(0.0227)	(0.0267)	(0.0267)	(0.0261)	(0.0296)
Year 2	0.129***	0.109***	-0.173***	-0.177***	-0.174***	-0.302***
	(0.0273)	(0.0262)	(0.0312)	(0.0313)	(0.0307)	(0.0345)
Year 3	0.165***	0.141***	-0.141***	-0.145***	-0.142***	-0.250***
	(0.0302)	(0.0289)	(0.0348)	(0.0346)	(0.0339)	(0.0397)
			Panel B: Numbers of women using contraceptives			
Year 1	-0.00167	-0.00117	-0.00278**	-0.00406***	-0.00366**	-0.00653
	(0.00112)	(0.000823)	(0.00115)	(0.00154)	(0.00157)	(0.00399)
Year 2	-0.00252**	-0.00170*	-0.00367***	-0.00507***	-0.00459***	-0.00800*
	(0.00124)	(0.000864)	(0.00139)	(0.00178)	(0.00176)	(0.00446)
Year 3	-0.00286	-0.00171	-0.00271	-0.00401*	-0.00350*	-0.00671
	(0.00196)	(0.00134)	(0.00169)	(0.00205)	(0.00198)	(0.00436)
			Panel C: Log of numbers			
Year 1	-0.0120**	-0.00745	-0.0147**	-0.0231***	-0.0210***	-0.0509***
	(0.00572)	(0.00521)	(0.00595)	(0.00608)	(0.00596)	(0.00765)
Year 2	-0.0170**	-0.00997	-0.0209***	-0.0307***	-0.0280***	-0.0619***
	(0.00670)	(0.00615)	(0.00726)	(0.00760)	(0.00735)	(0.00976)
Year 3	-0.0228***	-0.0135**	-0.0175**	-0.0267***	-0.0237***	-0.0553***
	(0.00799)	(0.00680)	(0.00803)	(0.00846)	(0.00812)	(0.0107)
Nb of observations	12,082	12,082	12,082	12,082	12,082	12,082
Nb of schools			583	583	583	583
SCHOOL FE	NO	NO	YES	YES	YES	YES
BACKGROUND	NO	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO
YEAR TREND	YES	YES	NO	YES	YES	NO
SCHOOL FE*YEAR TREND	NO	NO	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression where the outcome is having used contraceptives at least once by the end of the first, second and third years of high school (respectively rows labelled 'Year 1', 'Year 2' and 'Year 3'). We focus on the influence of non-Western women from the second and the third years of high school on non-Western immigrants from the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. The first column controls for a year trend, while the second controls for a year trend and individual controls. The third column controls for school fixed effects. The fourth adds a year trend to the third and the fifth adds individual controls to the fourth. The sixth column adds school specific linear trend to the fifth. Standard errors are clustered at the high school level.

Table 9: Influence of older native women on immigrant teenagers - Contraceptives usage

			Panel A: Fraction of usage			
Year 1	0.0628***	0.0633***	0.0112	0.000310	-0.00568	-0.0177
	(0.0216)	(0.0205)	(0.0250)	(0.0260)	(0.0251)	(0.0333)
Year 2	0.0850***	0.0856***	0.0232	0.00948	0.00164	-0.00920
	(0.0256)	(0.0239)	(0.0317)	(0.0332)	(0.0312)	(0.0436)
Year 3	0.0987***	0.101***	0.0359	0.0239	0.0168	0.0388
	(0.0275)	(0.0255)	(0.0328)	(0.0343)	(0.0322)	(0.0494)
			Panel B: Numbers of women using contraceptives			
Year 1	0.000434***	0.000396***	6.33e-05	-3.06e-05	2.21e-05	-0.000127
	(8.53e-05)	(8.10e-05)	(9.71e-05)	(0.000107)	(0.000107)	(0.000174)
Year 2	0.000545***	0.000488***	-2.24e-05	-0.000148	-7.57e-05	-0.000223
	(0.000106)	(9.85e-05)	(0.000122)	(0.000138)	(0.000136)	(0.000234)
Year 3	0.000615***	0.000549***	2.30e-05	-8.81e-05	-3.26e-06	-9.32e-05
	(0.000106)	(9.26e-05)	(0.000119)	(0.000137)	(0.000135)	(0.000210)
			Panel C: Log of numbers			
Year 1	0.0101***	0.00882***	-4.72e-05	-0.00332	-0.00212	-0.00499
	(0.00317)	(0.00298)	(0.00292)	(0.00311)	(0.00311)	(0.00402)
Year 2	0.0120***	0.00994***	-0.00383	-0.00822**	-0.00659*	-0.00841*
	(0.00393)	(0.00358)	(0.00369)	(0.00404)	(0.00394)	(0.00507)
Year 3	0.0175***	0.0152***	-0.00183	-0.00569	-0.00370	-0.00310
	(0.00421)	(0.00375)	(0.00390)	(0.00432)	(0.00417)	(0.00540)
Nb of observations	12,082	12,082	12,082	12,082	12,082	12,082
Nb of schools			583	583	583	583
SCHOOL FE	NO	NO	YES	YES	YES	YES
BACKGROUND	NO	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO
YEAR TREND	YES	YES	NO	YES	YES	NO
SCHOOL FE*YEAR TREND	NO	NO	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression where the outcome is having used contraceptives at least once by the end of the first, second and third years of high school (respectively rows labelled 'Year 1', 'Year 2' and 'Year 3'). We focus on the influence of native women from the second and the third years of high school on non-Western immigrants from the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. The first column controls for a year trend, while the second controls for a year trend and individual controls. The third column controls for school fixed effects. The fourth adds a year trend to the third and the fifth adds individual controls to the fourth. The sixth column adds school specific linear trend to the fifth. Standard errors are clustered at the high school level.

Table 10: Influence of older Muslim women on Muslim teenagers - Contraceptives usage

			Panel A: Fraction of usage			
Year 1	0.0333	0.0262	-0.155***	-0.160***	-0.161***	-0.328***
	(0.0247)	(0.0241)	(0.0317)	(0.0320)	(0.0319)	(0.0398)
Year 2	0.0565*	0.0435	-0.198***	-0.202***	-0.206***	-0.367***
	(0.0304)	(0.0301)	(0.0363)	(0.0367)	(0.0366)	(0.0452)
Year 3	0.0915**	0.0769**	-0.192***	-0.195***	-0.199***	-0.329***
	(0.0359)	(0.0358)	(0.0412)	(0.0410)	(0.0413)	(0.0569)
			Panel B: Numbers of women using contraceptives			
Year 1	-0.00493***	-0.00415***	-0.00457**	-0.00729***	-0.00738***	-0.0182***
	(0.00128)	(0.00134)	(0.00190)	(0.00199)	(0.00201)	(0.00360)
Year 2	-0.00561***	-0.00445**	-0.00508**	-0.00728***	-0.00749***	-0.0187***
	(0.00191)	(0.00196)	(0.00235)	(0.00255)	(0.00246)	(0.00454)
Year 3	-0.00528*	-0.00375	-0.00311	-0.00492	-0.00518	-0.0152***
	(0.00272)	(0.00270)	(0.00333)	(0.00349)	(0.00329)	(0.00478)
			Panel C: Log of numbers			
Year 1	-0.0145***	-0.0119**	-0.00968	-0.0174**	-0.0176**	-0.0446***
	(0.00443)	(0.00464)	(0.00670)	(0.00696)	(0.00703)	(0.0105)
Year 2	-0.0173***	-0.0133**	-0.0126	-0.0188**	-0.0194**	-0.0453***
	(0.00630)	(0.00648)	(0.00783)	(0.00851)	(0.00835)	(0.0130)
Year 3	-0.0173**	-0.0122	-0.00737	-0.0126	-0.0134	-0.0373***
	(0.00878)	(0.00878)	(0.0107)	(0.0112)	(0.0107)	(0.0135)
Nb of observations	7,718	7,718	7,718	7,718	7,718	7,718
Nb of schools			516	516	516	516
SCHOOL FE	NO	NO	YES	YES	YES	YES
BACKGROUND	NO	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO
YEAR TREND	YES	YES	NO	YES	YES	NO
SCHOOL FE*YEAR TREND	NO	NO	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression where the outcome is having used contraceptives at least once by the end of the first, second and third years of high school (respectively rows labelled 'Year 1', 'Year 2' and 'Year 3'). We focus on the influence of women from a Muslim background in the second and the third years of high school on immigrants with a Muslim background in the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. The first column controls for a year trend, while the second controls for a year trend and individual controls. The third column controls for school fixed effects. The fourth adds a year trend to the third and the fifth adds individual controls to the fourth. The sixth column adds school specific linear trend to the fifth. Standard errors are clustered at the high school level.

Table 11: Influence of older non-Muslim women on Muslim teenagers - Contraceptives usage

			Panel A: Fraction of usage			
Year 1	0.0390*	0.0425**	0.0402	0.0299	0.0254	0.0154
	(0.0213)	(0.0212)	(0.0254)	(0.0264)	(0.0260)	(0.0348)
Year 2	0.0798***	0.0838***	0.0470	0.0408	0.0344	0.0227
	(0.0249)	(0.0247)	(0.0295)	(0.0304)	(0.0298)	(0.0409)
Year 3	0.107***	0.113***	0.0539	0.0507	0.0440	0.0714
	(0.0278)	(0.0277)	(0.0344)	(0.0356)	(0.0351)	(0.0494)
			Panel B: Numbers of women using contraceptives			
Year 1	0.000183***	0.000165***	-1.42e-05	-0.000145	-0.000140	-0.000177
	(6.25e-05)	(6.15e-05)	(0.000105)	(0.000118)	(0.000119)	(0.000205)
Year 2	0.000327***	0.000301***	-2.52e-05	-0.000120	-0.000111	-0.000138
	(8.63e-05)	(8.24e-05)	(0.000114)	(0.000129)	(0.000129)	(0.000225)
Year 3	0.000452***	0.000420***	7.38e-05	1.69e-05	2.47e-05	7.29e-06
	(9.09e-05)	(8.59e-05)	(0.000124)	(0.000140)	(0.000141)	(0.000255)
			Panel C: Log of numbers			
Year 1	0.00339	0.00246	-0.000581	-0.00420	-0.00448	-0.00270
	(0.00296)	(0.00295)	(0.00312)	(0.00344)	(0.00347)	(0.00455)
Year 2	0.00850**	0.00706**	-0.000829	-0.00342	-0.00380	-0.00194
	(0.00342)	(0.00335)	(0.00357)	(0.00398)	(0.00396)	(0.00515)
Year 3	0.0148***	0.0131***	0.00204	0.000346	-0.000139	0.00153
	(0.00384)	(0.00374)	(0.00396)	(0.00435)	(0.00433)	(0.00580)
Nb of observations	7,718	7,718	7,718	7,718	7,718	7,718
Nb of schools			516	516	516	516
SCHOOL FE	NO	NO	YES	YES	YES	YES
BACKGROUND	NO	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO
YEAR TREND	YES	YES	NO	YES	YES	NO
SCHOOL FE*YEAR TREND	NO	NO	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression where the outcome is having used contraceptives at least once by the end of the first, second and third years of high school (respectively rows labelled 'Year 1', 'Year 2' and 'Year 3'). We focus on the influence of women from a non-Muslim background in the second and the third years of high school on immigrants with a Muslim background in the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. The first column controls for a year trend, while the second controls for a year trend and individual controls. The third column controls for school fixed effects. The fourth adds a year trend to the third and the fifth adds individual controls to the fourth. The sixth column adds school specific linear trend to the fifth. Standard errors are clustered at the high school level.

Table 12: Influence of older native women on native teenagers - Contraceptives usage

			Panel A: Fraction of usage			
Year 1	0.390***	0.304***	0.0816***	-0.00654	-0.00542	-0.0711***
	(0.0226)	(0.0183)	(0.0136)	(0.0113)	(0.0111)	(0.0144)
Year 2	0.317***	0.247***	0.0413***	-0.0188*	-0.0178	-0.0799***
	(0.0196)	(0.0165)	(0.0119)	(0.0110)	(0.0108)	(0.0133)
Year 3	0.241***	0.189***	0.0155	-0.0205**	-0.0198**	-0.0668***
	(0.0162)	(0.0142)	(0.00967)	(0.00931)	(0.00922)	(0.0116)
			Panel B: Numbers of women using contraceptives			
Year 1	0.000541***	0.000430***	0.000269***	-0.000233***	-0.000250***	-0.000443***
	(9.27e-05)	(7.40e-05)	(3.61e-05)	(4.02e-05)	(3.89e-05)	(7.01e-05)
Year 2	0.000435***	0.000342***	0.000132***	-0.000208***	-0.000219***	-0.000313***
	(7.20e-05)	(5.71e-05)	(3.10e-05)	(3.75e-05)	(3.70e-05)	(6.41e-05)
Year 3	0.000362***	0.000294***	8.00e-05***	-0.000121***	-0.000128***	-0.000188***
	(5.32e-05)	(4.32e-05)	(2.64e-05)	(3.10e-05)	(3.04e-05)	(5.24e-05)
			Panel C: Log of numbers			
Year 1	0.0173***	0.0140***	0.00937***	-0.00495***	-0.00546***	-0.00437***
	(0.00300)	(0.00243)	(0.00119)	(0.00130)	(0.00125)	(0.00168)
Year 2	0.0142***	0.0114***	0.00483***	-0.00477***	-0.00510***	-0.00327**
	(0.00252)	(0.00209)	(0.00107)	(0.00116)	(0.00113)	(0.00157)
Year 3	0.0122***	0.0101***	0.00273***	-0.00298***	-0.00318***	-0.00158
	(0.00205)	(0.00176)	(0.000864)	(0.000922)	(0.000902)	(0.00128)
Nb of observations	201,264	201,264	201,264	201,264	201,264	201,264
Nb of schools			647	647	647	647
SCHOOL FE	NO	NO	YES	YES	YES	YES
BACKGROUND	NO	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO
YEAR TREND	YES	YES	NO	YES	YES	NO
SCHOOL FE*YEAR TREND	NO	NO	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression where the outcome is having used contraceptives at least once by the end of the first, second and third years of high school (respectively rows labelled 'Year 1', 'Year 2' and 'Year 3'). We focus on the influence of native women in the second and the third years of high school on native teenagers background in the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. The first column controls for a year trend, while the second controls for a year trend and individual controls. The third column controls for school fixed effects. The fourth adds a year trend to the third and the fifth adds individual controls to the fourth. The sixth column adds school specific linear trend to the fifth. Standard errors are clustered at the high school level.

Table 13: Influence of older immigrant women on native teenagers - Contraceptives usage

			Panel A: Fraction of usage			
Year 1	0.0608***	0.0493***	4.44e-05	-0.0131**	-0.0134**	-0.0151**
	(0.0125)	(0.00992)	(0.00717)	(0.00625)	(0.00615)	(0.00713)
Year 2	0.0458***	0.0364***	-0.00518	-0.0138**	-0.0140**	-0.0126*
	(0.0102)	(0.00834)	(0.00665)	(0.00608)	(0.00602)	(0.00665)
Year 3	0.0371***	0.0302***	-0.00256	-0.00769	-0.00789	-0.00553
	(0.00810)	(0.00681)	(0.00551)	(0.00524)	(0.00518)	(0.00602)
			Panel B: Numbers of women using contraceptives			
Year 1	0.00490***	0.00348**	0.00516***	-0.00188**	-0.00206**	-0.00180*
	(0.00185)	(0.00160)	(0.00157)	(0.000797)	(0.000815)	(0.00104)
Year 2	0.00351**	0.00238*	0.00296***	-0.00167**	-0.00181**	-0.000778
	(0.00147)	(0.00127)	(0.00109)	(0.000718)	(0.000732)	(0.000823)
Year 3	0.00275**	0.00192*	0.00181*	-0.000923	-0.00101	-0.000421
	(0.00118)	(0.00104)	(0.00106)	(0.000676)	(0.000654)	(0.000828)
			Panel C: Log of numbers			
Year 1	0.0201**	0.0142**	0.0210***	-0.00644*	-0.00745**	-0.00705*
	(0.00823)	(0.00686)	(0.00337)	(0.00340)	(0.00334)	(0.00407)
Year 2	0.0150**	0.0104*	0.0132***	-0.00478	-0.00553*	-0.00151
	(0.00651)	(0.00540)	(0.00295)	(0.00309)	(0.00305)	(0.00387)
Year 3	0.0117**	0.00830*	0.00875***	-0.00178	-0.00229	0.000434
	(0.00499)	(0.00423)	(0.00258)	(0.00267)	(0.00263)	(0.00352)
Nb of observations	201,264	201,264	201,264	201,264	201,264	201,264
Nb of schools			647	647	647	647
SCHOOL FE	NO	NO	YES	YES	YES	YES
BACKGROUND	NO	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO
YEAR TREND	YES	YES	NO	YES	YES	NO
SCHOOL FE*YEAR TREND	NO	NO	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression where the outcome is having used contraceptives at least once by the end of the first, second and third years of high school (respectively rows labelled 'Year 1', 'Year 2' and 'Year 3'). We focus on the influence of non-Western immigrant women in the second and the third years of high school on native teenagers in the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. The first column controls for a year trend, while the second controls for a year trend and individual controls. The third column controls for school fixed effects. The fourth adds a year trend to the third and the fifth adds individual controls to the fourth. The sixth column adds school specific linear trend to the fifth. Standard errors are clustered at the high school level.

Table 14: Influence of older immigrant women on immigrant teenagers - Mechanisms

	Year 1				Year 2				Year 3			
					Panel A: Fraction of usage							
Abortion	-0.0110	-0.0113	-0.0112	-0.0183	-0.00549	-0.00602	-0.00562	-0.0153	-0.000807	-0.00203	-0.00153	-0.0211
	(0.00882)	(0.00880)	(0.00883)	(0.0116)	(0.0115)	(0.0116)	(0.0116)	(0.0156)	(0.0152)	(0.0153)	(0.0153)	(0.0211)
Chlamydia	0.000966	-0.000966	-0.000336	-0.00798	0.00288	0.000469	0.00150	-0.0103	-0.00287	-0.00544	-0.00424	-0.0167
	(0.00761)	(0.00763)	(0.00768)	(0.00946)	(0.00974)	(0.00973)	(0.00987)	(0.0130)	(0.0134)	(0.0135)	(0.0135)	(0.0168)
Consultation	-0.0973***	-0.101***	-0.0984***	-0.200***	-0.118***	-0.121***	-0.119***	-0.224***	-0.101***	-0.102***	-0.0990***	-0.199***
	(0.0286)	(0.0286)	(0.0280)	(0.0330)	(0.0321)	(0.0321)	(0.0318)	(0.0380)	(0.0339)	(0.0339)	(0.0336)	(0.0410)
					Panel B: Numbers of women using contraceptives							
Abortion	-0.000447	-0.000512	-0.000502	-0.000478	-0.000770**	-0.000894**	-0.000863**	-0.000857*	-0.000329	-0.000626	-0.000578	-0.000201
	(0.000305)	(0.000329)	(0.000338)	(0.000463)	(0.000366)	(0.000377)	(0.000369)	(0.000515)	(0.000490)	(0.000540)	(0.000539)	(0.000638)
Chlamydia	0.000630**	3.80e-06	5.56e-05	0.000528	0.000660	-3.84e-05	4.24e-05	0.00111*	0.000498	-0.000259	-0.000154	0.00104
	(0.000313)	(0.000493)	(0.000502)	(0.000407)	(0.000506)	(0.000780)	(0.000797)	(0.000675)	(0.000629)	(0.000932)	(0.000946)	(0.000759)
Consultation	-0.00146	-0.00271**	-0.00233**	-0.00424*	-0.00297**	-0.00388***	-0.00348**	-0.00556*	-0.00174	-0.00226	-0.00183	-0.00531**
	(0.00136)	(0.00121)	(0.00115)	(0.00244)	(0.00143)	(0.00149)	(0.00142)	(0.00285)	(0.00170)	(0.00168)	(0.00156)	(0.00269)
					Panel C: Log of numbers							
Abortion	-0.00204	-0.00250	-0.00247	-0.00311	-0.00319	-0.00399	-0.00387	-0.00547	-0.00170	-0.00357	-0.00336	-0.00273
	(0.00179)	(0.00192)	(0.00189)	(0.00254)	(0.00245)	(0.00262)	(0.00254)	(0.00340)	(0.00309)	(0.00338)	(0.00330)	(0.00439)
Chlamydia	0.00189	-0.00193	-0.00170	-0.000424	0.00116	-0.00326	-0.00291	0.000898	0.000327	-0.00448	-0.00397	-0.000169
	(0.00184)	(0.00204)	(0.00206)	(0.00275)	(0.00232)	(0.00264)	(0.00266)	(0.00394)	(0.00287)	(0.00344)	(0.00345)	(0.00465)
Consultation	-0.00807	-0.0160**	-0.0140*	-0.0339***	-0.0143*	-0.0203**	-0.0181**	-0.0390***	-0.00809	-0.0115	-0.00905	-0.0346***
	(0.00768)	(0.00758)	(0.00726)	(0.00833)	(0.00810)	(0.00838)	(0.00801)	(0.00991)	(0.00914)	(0.00972)	(0.00929)	(0.0105)
Nb of observations	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082
Nb of schools	583	583	583	583	583	583	583	583	583	583	583	583
SCHOOL FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
BACKGROUND	NO	NO	YES	YES	NO	NO	YES	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
YEAR TREND	NO	YES	YES	NO	NO	YES	YES	NO	NO	YES	YES	NO
SCHOOL TREND	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression. The outcome is indicated in the rows. Each outcome should be read has having done or been treated for something before the end of the first (three first columns), second (three following columns) or third year of high-school (last three columns). We focus on the influence of non-Western women from the second and the third years of high school on non-Western immigrants from the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. In each of the three blocks of the table, the first column controls for school fixed effects. The second adds a linear trend to the first and the third adds individual controls to the second. The fourth column adds school specific linear trend to the third. Standard errors are clustered at the high school level.

Table 15: Influence of older native women on immigrant teenagers - Mechanisms

	Year 1				Year 2				Year 3			
Panel A: Fraction of usage												
Abortion	0.0131*	0.0136*	0.0129*	-0.000316	0.0137	0.0136	0.0128	-0.000414	0.0102	0.00663	0.00539	-0.00781
	(0.00725)	(0.00743)	(0.00735)	(0.00939)	(0.00959)	(0.00997)	(0.00973)	(0.0125)	(0.0111)	(0.0114)	(0.0111)	(0.0170)
Chlamydia	0.0135**	0.00661	0.00618	-0.00222	0.0163*	0.00921	0.00829	-0.00232	0.0177	0.00932	0.00739	-0.00618
	(0.00606)	(0.00594)	(0.00589)	(0.00940)	(0.00947)	(0.0100)	(0.00994)	(0.0124)	(0.0124)	(0.0125)	(0.0122)	(0.0168)
Consultation	0.0382	0.0249	0.0192	0.00688	0.0430	0.0362	0.0293	0.0185	0.0239	0.0215	0.0140	0.0158
	(0.0283)	(0.0301)	(0.0285)	(0.0347)	(0.0336)	(0.0351)	(0.0333)	(0.0439)	(0.0372)	(0.0386)	(0.0369)	(0.0502)
Panel B: Numbers of women using contraceptives												
Abortion	1.12e-05	1.37e-05	1.52e-05	5.72e-05	-7.89e-07	-4.72e-06	-1.05e-06	2.06e-05	-7.17e-06	-4.12e-05	-3.40e-05	2.49e-06
	(2.75e-05)	(3.13e-05)	(3.15e-05)	(6.13e-05)	(4.05e-05)	(4.54e-05)	(4.57e-05)	(7.77e-05)	(4.49e-05)	(5.09e-05)	(5.16e-05)	(9.33e-05)
Chlamydia	6.79e-05***	4.76e-06	1.05e-05	3.79e-05	8.97e-05***	2.47e-05	3.56e-05	0.000128	7.61e-05*	1.69e-06	2.00e-05	0.000112
	(2.38e-05)	(2.62e-05)	(2.71e-05)	(7.26e-05)	(3.18e-05)	(3.47e-05)	(3.58e-05)	(8.23e-05)	(4.31e-05)	(4.96e-05)	(5.02e-05)	(9.57e-05)
Consultation	3.02e-05	-9.08e-05	-3.91e-05	-0.000228	1.82e-05	-4.33e-05	1.88e-05	-0.000179	6.15e-05	4.50e-05	0.000115	-6.86e-05
	(0.000123)	(0.000129)	(0.000127)	(0.000187)	(0.000136)	(0.000149)	(0.000145)	(0.000212)	(0.000134)	(0.000151)	(0.000149)	(0.000221)
Panel C: Log of numbers												
Abortion	0.000124	0.000121	0.000129	-6.58e-05	-0.000245	-0.000415	-0.000347	-0.000583	-0.000322	-0.00130	-0.00112	-0.000972
	(0.000909)	(0.000996)	(0.000988)	(0.00132)	(0.00112)	(0.00123)	(0.00122)	(0.00166)	(0.00137)	(0.00154)	(0.00152)	(0.00204)
Chlamydia	0.00278***	0.00111	0.00126	0.00124	0.00315***	0.00132	0.00156	0.00261	0.00306**	0.00107	0.00144	0.00263
	(0.000736)	(0.000820)	(0.000833)	(0.00148)	(0.00111)	(0.00124)	(0.00125)	(0.00176)	(0.00145)	(0.00163)	(0.00163)	(0.00219)
Consultation	-0.000225	-0.00399	-0.00279	-0.00918**	-0.00297	-0.00569	-0.00427	-0.00835	-0.000646	-0.00188	-0.000225	-0.00279
	(0.00346)	(0.00355)	(0.00344)	(0.00420)	(0.00412)	(0.00446)	(0.00430)	(0.00557)	(0.00457)	(0.00501)	(0.00483)	(0.00602)
Nb of observations	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082	12,082
Nb of schools	583	583	583	583	583	583	583	583	583	583	583	583
SCHOOL FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
BACKGROUND	NO	NO	YES	YES	NO	NO	YES	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
YEAR TREND	NO	YES	YES	NO	NO	YES	YES	NO	NO	YES	YES	NO
SCHOOL TREND	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression. The outcome is indicated in the rows. Each outcome should be read has having done or been treated for something before the end of the first (three first columns), second (three following columns) or third year of high-school (last three columns). We focus on the influence of native women from the second and the third years of high school on non-Western immigrants from the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. In each of the three blocks of the table, the first column controls for school fixed effects. The second adds a linear trend to the first and the third adds individual controls to the second. The fourth column adds school specific linear trend to the third. Standard errors are clustered at the high school level.

Table 16: Influence of older native women on native teenagers - Mechanisms

	Year 1				Year 2				Year 3			
Panel A: Fraction of usage												
Abortion	0.00274	0.000312	0.000377	-0.00175	0.00260	-0.00142	-0.00133	-0.00555	0.00142	-0.00398	-0.00386	-0.00848**
	(0.00228)	(0.00242)	(0.00239)	(0.00299)	(0.00280)	(0.00293)	(0.00290)	(0.00368)	(0.00341)	(0.00351)	(0.00349)	(0.00419)
Chlamydia	0.0294***	0.00171	0.00185	0.00403	0.0408***	0.00377	0.00408	-0.00294	0.0520***	0.00909	0.00945	0.00125
	(0.00526)	(0.00435)	(0.00432)	(0.00525)	(0.00723)	(0.00607)	(0.00601)	(0.00727)	(0.00872)	(0.00731)	(0.00723)	(0.00852)
Consultation	0.0758***	-0.00366	-0.00268	-0.0413***	0.0461***	-0.0142	-0.0134	-0.0502***	0.0299***	-0.00937	-0.00873	-0.0329***
	(0.0130)	(0.0110)	(0.0109)	(0.0142)	(0.0120)	(0.0109)	(0.0109)	(0.0135)	(0.0105)	(0.0101)	(0.0101)	(0.0125)
Panel B: Numbers of women using contraceptives												
Abortion	1.57e-05**	1.76e-06	-1.59e-08	-2.33e-05	1.67e-05**	-5.89e-06	-8.94e-06	-2.96e-05*	1.97e-05*	-9.56e-06	-1.42e-05	-2.71e-05
	(6.96e-06)	(7.82e-06)	(7.79e-06)	(1.65e-05)	(8.28e-06)	(9.25e-06)	(9.26e-06)	(1.66e-05)	(1.09e-05)	(1.24e-05)	(1.24e-05)	(2.37e-05)
Chlamydia	0.000109***	-4.81e-05***	-5.15e-05***	-4.48e-05*	0.000130***	-8.16e-05***	-8.66e-05***	3.96e-05	0.000136***	-0.000113***	-0.000118***	0.000107**
	(1.88e-05)	(1.86e-05)	(1.86e-05)	(2.57e-05)	(2.71e-05)	(2.80e-05)	(2.81e-05)	(4.42e-05)	(2.87e-05)	(2.97e-05)	(2.99e-05)	(5.00e-05)
Consultation	0.000260***	-0.000193***	-0.000207***	-0.000365***	0.000175***	-0.000166***	-0.000177***	-0.000264***	0.000141***	-7.97e-05**	-8.71e-05**	-0.000123**
	(3.60e-05)	(4.00e-05)	(3.91e-05)	(7.68e-05)	(3.45e-05)	(3.98e-05)	(3.94e-05)	(6.23e-05)	(3.27e-05)	(3.68e-05)	(3.65e-05)	(5.59e-05)
Panel C: Log of numbers												
Abortion	0.000475**	5.74e-05	-1.08e-05	-0.000185	0.000391	-0.000294	-0.000413	-0.000451	0.000370	-0.000528	-0.000711*	-0.000657
	(0.000239)	(0.000261)	(0.000259)	(0.000379)	(0.000282)	(0.000307)	(0.000305)	(0.000432)	(0.000349)	(0.000384)	(0.000384)	(0.000517)
Chlamydia	0.00366***	-0.000862	-0.000991*	0.000492	0.00401***	-0.00212***	-0.00231***	0.00130	0.00525***	-0.00172**	-0.00194**	0.00476***
	(0.000519)	(0.000537)	(0.000536)	(0.000631)	(0.000716)	(0.000740)	(0.000738)	(0.000895)	(0.000802)	(0.000831)	(0.000828)	(0.00108)
Consultation	0.00914***	-0.00375***	-0.00419***	-0.00337**	0.00613***	-0.00356***	-0.00387***	-0.00257*	0.00486***	-0.00145	-0.00167	-0.000122
	(0.00117)	(0.00124)	(0.00121)	(0.00170)	(0.00108)	(0.00114)	(0.00113)	(0.00156)	(0.00101)	(0.00105)	(0.00105)	(0.00145)
Nb of observations	201,264	201,264	201,264	201,264	201,264	201,264	201,264	201,264	201,264	201,264	201,264	201,264
Nb of schools	647	647	647	647	647	647	647	647	647	647	647	647
SCHOOL FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
BACKGROUND	NO	NO	YES	YES	NO	NO	YES	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
YEAR TREND	NO	YES	YES	NO	NO	YES	YES	NO	NO	YES	YES	NO
SCHOOL TREND	NO	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression. The outcome is indicated in the rows. Each outcome should be read has having done or been treated for something before the end of the first (three first columns), second (three following columns) or third year of high-school (last three columns). We focus on the influence of native women from the second and the third years of high school on native teenagers from the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. In each of the three blocks of the table, the first column controls for school fixed effects. The second adds a linear trend to the first and the third adds individual controls to the second. The fourth column adds school specific linear trend to the third. Standard errors are clustered at the high school level.

Table 17: Influence of immigrant women (cohort) on immigrant teenagers - Contraceptives usage

			Panel A: Fraction of usage			
Year 1	-0.00127	-0.00209	-0.0112**	-0.0112**	-0.0106**	-0.0156**
	(0.00478)	(0.00472)	(0.00499)	(0.00497)	(0.00501)	(0.00618)
Year 2	0.112***	0.100***	-0.107**	-0.109**	-0.0986**	-0.216***
	(0.0383)	(0.0353)	(0.0425)	(0.0426)	(0.0401)	(0.0468)
Year 3	0.124***	0.112***	-0.0831*	-0.0849*	-0.0744*	-0.179***
	(0.0404)	(0.0374)	(0.0439)	(0.0441)	(0.0417)	(0.0477)
			Panel B: Numbers of women using contraceptives			
Year 1	-0.00617**	-0.00448*	-0.0150***	-0.0160***	-0.0148***	-0.0315***
	(0.00310)	(0.00228)	(0.00409)	(0.00409)	(0.00404)	(0.00647)
Year 2	-0.00854**	-0.00574**	-0.0118**	-0.0127**	-0.0111**	-0.0241***
	(0.00372)	(0.00287)	(0.00506)	(0.00510)	(0.00498)	(0.00694)
Year 3	-0.00996**	-0.00620*	-0.0114**	-0.0123**	-0.0106**	-0.0237***
	(0.00503)	(0.00369)	(0.00533)	(0.00542)	(0.00530)	(0.00716)
			Panel C: Log of numbers			
Year 1	-0.0224**	-0.0166**	-0.0370***	-0.0396***	-0.0361***	-0.0700***
	(0.00917)	(0.00737)	(0.0133)	(0.0130)	(0.0128)	(0.0185)
Year 2	-0.0299***	-0.0209**	-0.0302*	-0.0328**	-0.0283*	-0.0558***
	(0.0116)	(0.00974)	(0.0166)	(0.0165)	(0.0161)	(0.0211)
Year 3	-0.0329**	-0.0210*	-0.0280*	-0.0305*	-0.0257	-0.0560***
	(0.0138)	(0.0110)	(0.0168)	(0.0168)	(0.0164)	(0.0207)
Nb of observations	12,082	12,082	12,082	12,082	12,082	12,082
Nb of schools			583	583	583	583
SCHOOL FE	NO	NO	YES	YES	YES	YES
BACKGROUND	NO	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO
YEAR TREND	YES	YES	NO	YES	YES	NO
SCHOOL FE*YEAR TREND	NO	NO	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression where the outcome is having used contraceptives at least once by the end of the first, second and third years of high school (respectively rows labelled 'Year 1', 'Year 2' and 'Year 3'). We focus on the influence of non-Western immigrants in the first year of high school on other non-Western immigrants in the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives before the start of high school, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor. The first column controls for a year trend, while the second controls for a year trend and individual controls. The third column controls for school fixed effects. The fourth adds a year trend to the third and the fifth adds individual controls to the fourth. The sixth column adds school specific linear trend to the fifth. Standard errors are clustered at the high school level.

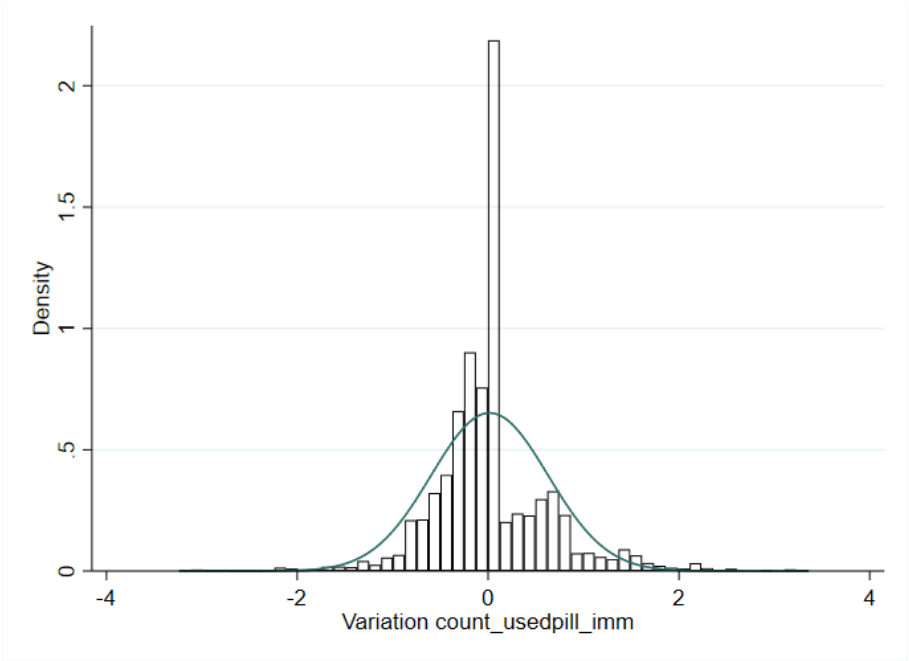
Table 18: Influence of native women (cohort) on immigrant teenagers - Contraceptives usage

			Panel A: Fraction of usage			
Year 1	0.184***	0.186***	0.0421	0.0207	0.0121	-0.0223
	(0.0305)	(0.0301)	(0.0436)	(0.0474)	(0.0463)	(0.0534)
Year 2	0.224***	0.226***	0.0750	0.0587	0.0463	0.0264
	(0.0366)	(0.0352)	(0.0503)	(0.0540)	(0.0523)	(0.0631)
Year 3	0.214***	0.218***	0.0506	0.0308	0.0147	-0.0168
	(0.0410)	(0.0384)	(0.0605)	(0.0653)	(0.0630)	(0.0724)
			Panel B: Numbers of women using contraceptives			
Year 1	0.00132***	0.00121***	0.000648	0.000426	0.000474	0.000266
	(0.000238)	(0.000228)	(0.000446)	(0.000465)	(0.000450)	(0.000569)
Year 2	0.00174***	0.00157***	0.00105*	0.000893	0.000923	0.000912
	(0.000308)	(0.000291)	(0.000563)	(0.000597)	(0.000573)	(0.000740)
Year 3	0.00175***	0.00154***	0.000880	0.000687	0.000698	0.000359
	(0.000310)	(0.000273)	(0.000541)	(0.000597)	(0.000566)	(0.000682)
			Panel C: Log of numbers			
Year 1	0.0393***	0.0352***	0.0183**	0.0123	0.00985	0.00828
	(0.00490)	(0.00466)	(0.00913)	(0.0101)	(0.00961)	(0.0118)
Year 2	0.0523***	0.0460***	0.0219*	0.0164	0.0127	0.0176
	(0.00597)	(0.00558)	(0.0112)	(0.0122)	(0.0116)	(0.0147)
Year 3	0.0540***	0.0461***	0.0135	0.00627	0.00152	0.00860
	(0.00738)	(0.00661)	(0.0127)	(0.0141)	(0.0137)	(0.0169)
Nb of observations	12,082	12,082	12,082	12,082	12,082	12,082
Nb of schools			583	583	583	583
SCHOOL FE	NO	NO	YES	YES	YES	YES
BACKGROUND	NO	YES	NO	NO	YES	YES
GRADE CHAR	NO	NO	NO	NO	NO	NO
YEAR TREND	YES	YES	NO	YES	YES	NO
SCHOOL FE*YEAR TREND	NO	NO	NO	NO	NO	YES

Note: Each cell of this table reports the coefficient of a separate regression where the outcome is having used contraceptives at least once by the end of the first, second and third years of high school (respectively rows labelled 'Year 1', 'Year 2' and 'Year 3'). We focus on the influence of native teenagers in the first year of high school on non-Western immigrants in the first year. In the first three rows, peers behaviour is measured as the fraction (of the influential population) of girls who already took contraceptives before the start of high school, in the following three rows the number of these girls and in the last three rows the log of the number. In the first three rows, the size of the group is added as a regressor.The first column controls for a year trend, while the second controls for a year trend and individual controls. The third column controls for school fixed effects. The fourth adds a year trend to the third and the fifth adds individual controls to the fourth. The sixth column adds school specific linear trend to the fifth. Standard errors are clustered at the high school level.

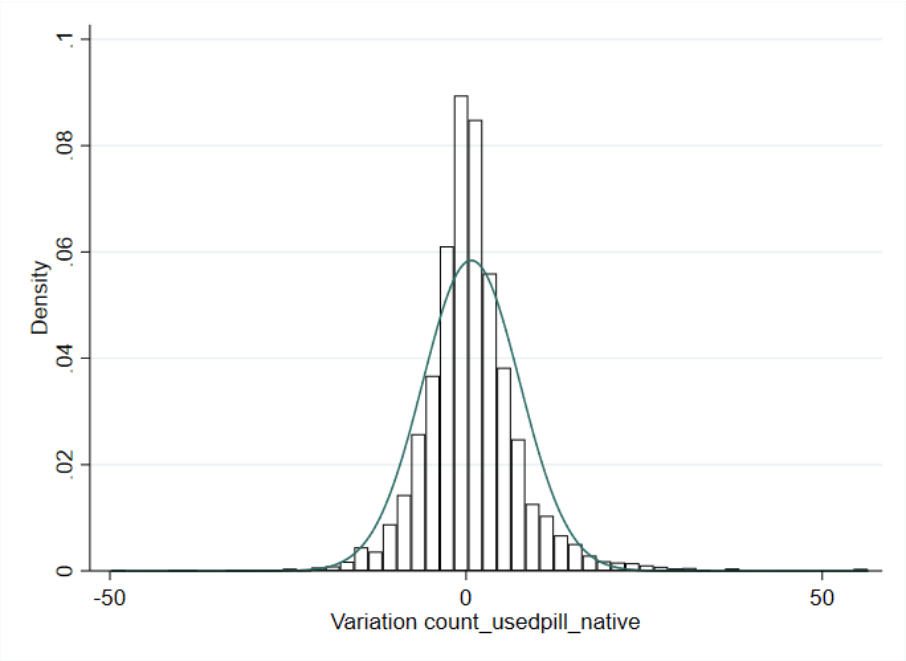
10 Appendix

Figure A1: Residual variation for identification (immigrant women from the same cohort)



Note : This graph plots the residuals of a regression of the number of immigrant women from the first year of high school (by school/cohort) who have taken contraceptives before the start of high-school on school fixed effects and a school specific time trend. The residual is the difference between the predicted and actual numbers (at the school/cohort level). The curve is a fitted normal distribution.

Figure A2: Residual variation for identification (native women from the same cohort)



Note : This graph plots the residuals of a regression of the number of native women from the first year of high school (by school/cohort) who have taken contraceptives before the start of high-school on school fixed effects and a school specific time trend. The residual is the difference between the predicted and actual numbers (at the school/cohort level). The curve is a fitted normal distribution.

Table A1: Members of the Organisation of Islamic Cooperation

Republic of AZERBAIJAN, Hashemite Kingdom of JORDAN, Islamic Republic of AFGHANISTAN
Republic of ALBANIA, State of The UNITED ARAB EMIRATES
Republic of INDONESIA, Republic of UZBEKISTAN, Republic of UGANDA
Islamic Republic of IRAN, Islamic Republic of PAKISTAN, Kingdom of BAHRAIN
BRUNEI-DARUSSALAM, People's Republic of BANGLADESH, Republic of BENIN
BURKINA-FASO, Republic of TAJIKISTAN, Republic of TURKEY
Turkmenistan, Republic of CHAD, Republic of TOGO, Republic of TUNISIA
People's Democratic Republic of ALGERIA, Republic of DJIBOUTI
Kingdom of SAUDI ARABIA, Republic of SENEGAL, Republic of The SUDAN
SYRIAN Arab Republic, Republic of SURINAME, Republic of SIERRA LEONE
Republic of SOMALIA, Republic of IRAQ, Sultanate of OMAN, Republic of GABON
Republic of The Gambia, Republic of GUYANA, Republic of GUINEA
Republic of GUINEA-BISSAU, State of PALESTINE, Union of The COMOROS
KYRGYZ Republic, State of QATAR, Republic of KAZAKHSTAN
Republic of CAMEROON, Republic of COTE D'IVOIRE, State of KUWAIT
Republic of LEBANON, Libya, Republic of MALDIVES, Republic of MALI, MALAYSIA
Arab Republic of EGYPT, Kingdom of MOROCCO, Islamic Republic of MAURITANIA
Republic of MOZAMBIQUE, Republic of NIGER, Federal Republic of NIGERIA
Republic of YEMEN

Table A2: Sample criteria - step-by-step selection

Women born 1981 to 1993 and in the country at age 13	385691
Entering high school in the first available grade - wide definition	270355
Entering high school in the first available grade - narrow definition	268258
Starting high school between the year they turn age 14 and 19	260243
Starting in July through September	258460
More than 10 people on the cohort	258248
More than 95% start in between the year they turn 14 to 19	213346

Note: This table reports the number of observations which satisfy the different criteria used to define the sample. These criteria are entered successively, each row being incremented after the one above itself.

Table A3: Balancing tests - Immigrants women

	Fraction	Log	Number	Fraction	Log	Number
	Immigrant women in older grades			Native women in older grades		
Months of education, mom	-3.86e-06	7.96e-05	0.000251	1.11e-05	0.000200*	0.00472
	(1.64e-05)	(5.80e-05)	(0.000187)	(1.24e-05)	(0.000108)	(0.00302)
Education above high school, mom	0.00121	0.00745	0.0544	0.000937	0.0397	0.833
	(0.00366)	(0.0115)	(0.0392)	(0.00315)	(0.0250)	(0.608)
Missing education, mom	9.79e-05	-0.0113	-0.0191	-0.00148	-0.0259	-0.451
	(0.00230)	(0.00815)	(0.0278)	(0.00183)	(0.0161)	(0.437)
Unemployed, mom	0.00293	-0.00145	0.0262	0.00195	0.0413*	1.085*
	(0.00412)	(0.0123)	(0.0433)	(0.00274)	(0.0212)	(0.569)
Out of the labour market, mom	0.00327	0.0117	0.0472	-0.00202	-0.0150	-0.433
	(0.00224)	(0.00732)	(0.0294)	(0.00181)	(0.0149)	(0.387)
Missing employment info, mom	-0.0107	-0.0721**	-0.366	0.0120*	-0.0167	-2.504
	(0.00738)	(0.0284)	(0.225)	(0.00629)	(0.0549)	(1.783)
Months of education, dad	5.59e-06	4.73e-05	0.000135	-9.25e-06	0.000113	0.00223
	(1.52e-05)	(5.30e-05)	(0.000171)	(1.07e-05)	(8.90e-05)	(0.00223)
Education above high school, dad	-0.00104	0.00341	0.0382	-0.00224	0.0193	0.381
	(0.00328)	(0.0100)	(0.0434)	(0.00241)	(0.0210)	(0.534)
Missing education, dad	-0.000841	-0.00608	-0.0145	0.000257	-0.0150	-0.168
	(0.00228)	(0.00816)	(0.0287)	(0.00178)	(0.0151)	(0.383)
Unemployed, dad	0.00392	0.0133	0.0914	0.00264	0.0585**	1.239
	(0.00412)	(0.0172)	(0.0918)	(0.00315)	(0.0254)	(0.802)
Out of the labour market, dad	0.00175	-0.000807	0.0174	-0.000235	-0.0215	-0.690*
	(0.00265)	(0.00750)	(0.0337)	(0.00200)	(0.0145)	(0.366)
Missing employment info, dad	-0.00716*	-0.0105	-0.0599	0.00306	-0.00493	-0.219
	(0.00390)	(0.0117)	(0.0512)	(0.00273)	(0.0234)	(0.609)
Age at birth, mom	5.13e-05	0.000558	0.00242	-0.000104	0.00126	0.0164
	(0.000188)	(0.000656)	(0.00271)	(0.000142)	(0.00112)	(0.0267)
Missing birth information, mom	-0.0164	-0.0788**	-0.409	0.00950	-0.0403	-2.634
	(0.0103)	(0.0354)	(0.316)	(0.00734)	(0.0727)	(2.165)
Age at birth, dad	8.10e-05	-0.000127	-0.00145	-5.66e-05	-6.42e-05	-0.00847
	(0.000111)	(0.000391)	(0.00165)	(8.76e-05)	(0.000638)	(0.0152)
Missing birth information, dad	-0.00594	-0.00577	-0.0211	0.00194	0.000408	-0.326
	(0.00453)	(0.0135)	(0.0498)	(0.00294)	(0.0254)	(0.692)
Parents married or cohabiting	-0.000122	0.00314	0.0108	-0.00437**	-0.0149	0.101
	(0.00254)	(0.00869)	(0.0433)	(0.00194)	(0.0164)	(0.455)
Nb observations	12,082	12,082	12,082	12,082	12,082	12,082

Note : Each cell of this table reports the coefficient of a separate regression. The outcome variable is indicated in the rows. The regressosrs are school fixed effects and a school specific linear time trend and a measure of peer behaviour. In the first three columns, the peers are the non-Western immigrant teenagers from older cohorts, while in the last three columns there are the native young women from older cohorts. Their behaviour is measured as a share of the influential population which has taken contraceptives at least once (column1 and 4), the number of women (numerator of the share, in columns 2 and 5) and the log of this number in columns 3 and 6. Observations consist of first year high school students with a non-Western background. Standard errors are clustered at the school level.

Table A4: Balancing tests - Native women

	Fraction	Log	Number	Fraction	Log	Number
	Immigrant women in older grades			Native women in older grade		
Months of education, mom	2.69e-05**	2.93e-05	0.000121**	1.22e-06	7.55e-05*	0.00401***
	(1.05e-05)	(1.82e-05)	(5.67e-05)	(5.08e-06)	(4.28e-05)	(0.00108)
Education above high school, mom	0.000415	-0.000783	-0.00305	0.000200	0.00140	0.148*
	(0.000738)	(0.00143)	(0.00521)	(0.000333)	(0.00299)	(0.0836)
Missing education, mom	-0.00437	-0.00812*	-0.0264*	3.80e-05	0.00516	-0.171
	(0.00273)	(0.00470)	(0.0153)	(0.00124)	(0.00979)	(0.279)
Unemployed, mom	-0.000972	0.00880**	0.0211	0.00103	0.0488***	0.970***
	(0.00230)	(0.00409)	(0.0129)	(0.00113)	(0.0100)	(0.241)
Out of the labour market, mom	0.00114	0.00132	-0.000619	-3.99e-05	0.0204***	0.387**
	(0.00135)	(0.00251)	(0.0103)	(0.000722)	(0.00600)	(0.151)
Missing employment info, mom	-0.000247	0.00242	0.0256	0.00106	0.00837	-0.0532
	(0.00414)	(0.00690)	(0.0272)	(0.00209)	(0.0164)	(0.413)
Months of education, dad	9.62e-06	1.31e-05	0.000110	4.99e-06	3.94e-05	0.00196**
	(7.82e-06)	(1.39e-05)	(8.22e-05)	(3.87e-06)	(3.34e-05)	(0.000878)
Education above high school, dad	0.000432	0.000443	0.00522	0.000848**	0.00802**	0.206**
	(0.000812)	(0.00144)	(0.00488)	(0.000423)	(0.00362)	(0.0969)
Missing education, dad	-0.00116	-0.00239	-0.0142	-0.000506	0.00385	-0.0513
	(0.00159)	(0.00274)	(0.0111)	(0.000803)	(0.00712)	(0.181)
Unemployed, dad	0.000187	0.000498	0.00809	-0.00210	0.0586***	1.001***
	(0.00244)	(0.00515)	(0.0184)	(0.00138)	(0.0114)	(0.282)
Out of the labour market, dad	0.000771	0.00374	-0.0112	-0.000591	0.00302	-0.0906
	(0.00181)	(0.00333)	(0.0176)	(0.000944)	(0.00841)	(0.218)
Missing employment info, dad	-0.000467	-0.00280	-0.0155	3.22e-05	0.00387	-0.0136
	(0.00207)	(0.00332)	(0.0108)	(0.000980)	(0.00812)	(0.198)
Age at birth, mom	1.57e-06	-0.000102	-0.000108	3.87e-05	-0.000679*	-0.0155
	(8.28e-05)	(0.000121)	(0.000367)	(4.51e-05)	(0.000365)	(0.00970)
Missing birth information, mom	-0.00128	0.0250	0.194	-0.00823	0.0598	3.726
	(0.0179)	(0.0447)	(0.310)	(0.00850)	(0.0697)	(2.334)
Age at birth, dad	-2.20e-06	0.000166	0.000433	3.19e-05	-0.000103	0.00297
	(5.85e-05)	(0.000110)	(0.000336)	(3.14e-05)	(0.000255)	(0.00628)
Missing birth information, dad	-0.00237	-0.0101*	-0.0350**	-0.00213	-0.0111	-0.520
	(0.00318)	(0.00560)	(0.0174)	(0.00183)	(0.0149)	(0.331)
Parents married or cohabiting	-0.000364	-0.00224	-0.00153	0.000734*	-0.000747	0.00603
	(0.000854)	(0.00162)	(0.00511)	(0.000430)	(0.00354)	(0.0995)
Nb observations	201,264	201,264	201,264	201,264	201,264	201,264

Note : Each cell of this table reports the coefficient of a separate regression. The outcome variable is indicated in the rows. The regressosrs are school fixed effects and a school specific linear time trend and a measure of peer behaviour. In the first three columns, the peers are the non-Western immigrant teenagers from older cohorts, while in the last three columns there are the native young women from older cohorts. Their behaviour is measured as a share of the influential population which has taken contraceptives at least once (column1 and 4), the number of women (numerator of the share, in columns 2 and 5) and the log of this number in columns 3 and 6. Observations consist of native first year high school students. Standard errors are clustered at the school level.

Table A5: Balancing tests - Measures of concentration

	Fraction	Log	Number	Fraction	Log	Number
	Immigrant Women			Native Women		
Months of education, mom	-1.08e-05	-0.000104**	-0.000610	-3.64e-06**	-5.40e-05**	-0.000211
	(7.14e-06)	(5.17e-05)	(0.000610)	(1.61e-06)	(2.66e-05)	(0.000133)
Education above high school, mom	-0.000577	-0.0120	-0.0678	-0.000346***	-0.00440**	-0.0196**
	(0.00117)	(0.0110)	(0.102)	(0.000111)	(0.00178)	(0.00965)
Missing education, mom	0.00189*	0.0145*	0.127	0.000312	0.0110*	0.0368
	(0.00111)	(0.00753)	(0.0824)	(0.000420)	(0.00651)	(0.0308)
Unemployed, mom	0.000218	-0.000919	0.0792	0.000129	-0.000988	0.0133
	(0.00164)	(0.0115)	(0.105)	(0.000377)	(0.00555)	(0.0257)
Out of the labour market, mom	0.000908	0.00208	0.0190	0.000410*	0.00540	0.00658
	(0.000759)	(0.00754)	(0.0727)	(0.000227)	(0.00330)	(0.0177)
Missing employment info, mom	-0.00225	-0.00816	-0.331	0.000164	0.00782	0.0886
	(0.00303)	(0.0258)	(0.298)	(0.000778)	(0.0112)	(0.0546)
Months of education, dad	-2.18e-06	-8.54e-05*	-0.000480	-1.51e-06	-2.71e-05	-4.94e-08
	(5.58e-06)	(4.52e-05)	(0.000375)	(1.33e-06)	(2.03e-05)	(0.000112)
Education above high school, dad	-0.00115	-0.0177*	-0.175**	-0.000183	-0.00335	-0.0146
	(0.000898)	(0.0104)	(0.0752)	(0.000128)	(0.00205)	(0.0108)
Missing education, dad	-3.00e-05	0.0112	0.0357	0.000122	0.00239	0.00440
	(0.000954)	(0.00724)	(0.0635)	(0.000263)	(0.00401)	(0.0237)
Unemployed, dad	-0.000918	0.00971	0.127	0.000569	0.00271	0.0240
	(0.00322)	(0.0145)	(0.168)	(0.000423)	(0.00589)	(0.0341)
Out of the labour market, dad	-0.000150	-0.00574	-0.0337	8.56e-05	0.00682	0.0203
	(0.000887)	(0.00766)	(0.0724)	(0.000306)	(0.00446)	(0.0233)
Missing employment info, dad	-0.000763	0.00582	-0.167*	-0.000313	-0.00187	-0.0279
	(0.00123)	(0.0109)	(0.0961)	(0.000336)	(0.00486)	(0.0262)
Age at birth, mom	-2.74e-05	-0.000200	-0.00189	-1.39e-05	-0.000132	-0.000449
	(9.59e-05)	(0.000597)	(0.00653)	(1.13e-05)	(0.000178)	(0.000906)
Missing birth information, mom	-0.00148	0.00218	-0.455	0.00132	0.0260	0.291
	(0.00297)	(0.0278)	(0.362)	(0.00379)	(0.0445)	(0.217)
Age at birth, dad	-4.26e-05	-0.000430	-0.00114	-1.18e-05	-0.000131	-0.000911
	(4.57e-05)	(0.000328)	(0.00340)	(8.44e-06)	(0.000129)	(0.000659)
Missing birth information, dad	0.000519	0.0203	-0.0498	0.000165	0.00851	0.0171
	(0.00138)	(0.0133)	(0.111)	(0.000624)	(0.00784)	(0.0414)
Parents married or cohabiting	0.00161*	0.00528	0.182*	-4.87e-05	-0.000787	0.00106
	(0.000901)	(0.00802)	(0.0956)	(0.000118)	(0.00198)	(0.0106)
Nb observations	12,082	12,082	12,082	201,264	201,264	201,264

Note : Each cell of this table reports the coefficient of a separate regression. The outcome variable is indicated in the rows. The regressosrs are school fixed effects and a school specific linear time trend and a measure of peer composition. Composition is measured as the share of non-Western immigrants in the cohort (column1 and 4), the number of women with a non-Western background (numerator of the share, in columns 2 and 5) and the log of this number in columns 3 and 6. Observations consist of first year high school students (from the same cohort) with a non-Western background in the first three columns and native students in the last three columns. Standard errors are clustered at the school level.