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The Effects of an Education Reform on Democratic Citizenship

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Abstract

In the mid 1990s an extensive reform of the Swedish educational system took place in order to create a 'school for everyone' that was intended to function like a 'social equalizer'. The new unified gymnasium initiated longer educational programs with an increased amount of civics courses. The aim of this study is to examine whether the well documented gap in levels of democratic citizenship characteristics between students on theoretical and vocational gymnasium study programs prevailed after this massive reform. Did the new educational system decrease the gap concerning political participation, knowledge, attentiveness and trust between students with different types of education? Given the vast amount of empirical research that has shown that education promotes democratic citizenship, the reform could be expected to result in a reduced civic gap. Contrary to the conventional wisdom in research on educational effects, results show no positive effects of initiating longer educational programs with more civic courses on the examined core dimensions of democratic citizenship. The gap in civic virtues between citizens from theoretical and vocational gymnasium study programs prevailed also after the unification of the educational system.

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INTRODUCTION

Can a school reform that unifies the educational system by increasing the amount of civics courses and extending the length of educations reduce systematic inequalities in levels of democratic citizenship? Systematic differences related to type of education, first and foremost between theoretical and vocational gymnasium study programs, have been well known for several decades. The aim of this study is to examine whether the gap in levels of core dimensions of democratic citizenship prevailed after the massive reform of the Swedish educational system that took place in the 1990s. More specifically, did the reform have any equalizing long-term effect on the gap between students from theoretical and vocational study programs concerning their levels of political participation, knowledge, attentiveness and trust?

This may at first glance seem to be a provincial matter. However, the reform of the Swedish gymnasium in the mid 1990s represents a unique opportunity to start disentangle various effects of education on democratic citizenship among young citizens. By comparing young citizens' scores on the indicators of democratic citizenship before and after the reform, we estimate the effect of raised educational levels. In extension, we investigate the potential of using school reform in order to balance systematic inequalities in levels of democratic citizenship among young citizens.

The educational system is often considered to be one of the primary arenas where young citizens' political attitudes, knowledge and behavior are shaped. Schools are critical to the survival of democracy; this is where young people are supposed become democratic citizens. Great expectations are ascribed by theorists to the prospect of strengthening individual's political knowledge, behavior and attitudes by a well functioning educational system (e.g. Galston 2001; Crittenden 2007; Gutman 1999). Furthermore, it is also claimed that educational systems should "play a strategic role in promoting well-being, including fostering competitive and dynamic knowledge-based economies, as well as social cohesion and active citizenship" (Desjardins 2008, 24). The Swedish educational reform in the 1990s represent one of the most far-reaching attempts to unify a post-secondary school system; it aimed to provide everyone, regardless the choice of study program, with a high quality education that provides a solid ground for further academic studies.

Although education is seen as “the prime factor in most analyses of political activity” (Verba, Schlozman, and Brady 1995, 433), the relationship between education and democratic citizenship remain largely undertheorized. Orit Ichilov points out that “the causal connection between various processes of formal education and democratic citizenship is pretty much an undeciphered ‘black box’” (Ichilov 2003, 418). In this article we aim to try to shed some light in this black box by disentangle the impact of type of education in relation to length of education and content of education.

In most studies of the relationship between education and democratic citizenship it is assumed that the *length of education* is an important determinant of various dimensions of democratic citizenship. Moreover, civic education research calls attention to the effects of curriculum, i.e. the *content of education*. While educational *length* and *content* are common explanatory factors in studies of educational effects, there are also other potential dimensions of education that may have impact on democratic citizenship. Therefore, we wish to underscore an important distinction between *educational content*, i.e. the actual courses taken on the one hand, and the *type of education* on the other. By type of education we mean the overall aim of the study program, to begin with if it is theoretical or vocational.¹ In the current case we are interested in the potential impact of *type* of education in relation to *content* and *length*: Does the unequal levels of democratic citizenship characteristics between students with different types of education prevail when the length of study programs and the amount of civics courses have been increased?

In most countries, some kind of social studies courses is included in the curriculum of high status educational programs, whereas low status educations are shorter and focused on practical courses. Since the dimensions of education (length, content and type) often coincide as confounding factors it has hitherto been almost impossible – yet an important endeavor – to isolate the effects from one another. In this case however, we have the opportunity to isolate the impact of type of education from length and content.

¹ Even though type of education and content of education are overlapping concepts, we wish to make clear that they represent different dimensions of education which may have different causal effects. On the one hand, the content of education may have an impact on democratic citizenship since the courses studied may have positive effects on individuals’ civic skills. On the other hand, the type of education may, for example, have effects on the students’ future social network position, which in turn may have impact on their levels of political participation.

THEORETICAL EXPECTATIONS

Previous research ascribes great expectations to the prospect of strengthening individual's political knowledge, behavior and attitudes by civics courses. Drawing on data from the 1980s, Westholm, Lindqvist and Niemi (1990) concluded that there was a gap between Swedish students on vocational and theoretical gymnasium programs concerning their political knowledge.² However, their results indicated that a *social studies curriculum* had a positive effect on political literacy. Consequently, they argued that: “[the gap] is by no means a necessary outcome. [...] Had all students been exposed to the same amount of training, we might well have seen a narrowing of the gap between theoretical and vocational programs” (Westholm, Lindqvist, and Niemi 1990, 200). This prediction represents the most common idea about how education affects democratic citizenship, what we here refer to as the *absolute education effects model*. We will test this model along with two other competing models – *the sorting model* and *the pre-adult socialization model* – which will be presented in the next sections.

1) Why we have reason to expect that the reform will reduce the gap – The absolute education effects model

Primarily, we will present the arguments that provide reasons to expect that the reform will decrease the gap in levels of democratic citizenship between students who went to vocational and theoretical gymnasium study programs. According to what we here refer to as *the absolute education effects model*, civic education is supposed to improve individuals' political knowledge, political participation and democratic values such as tolerance.

The relationship between education and democratic citizenship is most often supposed to be explained through a cognitive pathway, i.e. what students learn in schools has positive effects on their behavior, knowledge and attitudes as a consequence of the fact that education improves the students' cognitive skills. Walter and Rosenberger explains this possible effect of education in the following way: “Cognitively mobilized citizens are equipped with the main skills, resources and

² A more recent detailed account about the relationship between individuals with different types of education and political participation respectively value orientations can be found in Oscarsson and Holmberg (2004, 79) and Oscarsson (2003).

abilities necessary to process complex political information, to understand the rules and idiosyncrasies of the political system and to recognize their own political interests and preferences” (Walter and Rosenberger 2007, 11).

Drawing on previous research, we have reason to expect a general positive relationship between education and the core dimensions of democratic citizenship: *political knowledge* (Niemi and Junn 1998; Delli Carpini and Keeter 1996; Finkel 2003; Galston 2001; Mcallister 1998; Milner 2002; Milligan, Moretti, and Oreopoulos 2004), *political participation* (Dee 2004; Finkel 2003; Print 2007; Niemi and Junn 1998; Galston 2001; Nie and Hillygus 2001; Hillygus 2005; Verba, Schlozman, and Brady 1995), *trust* (Helliwell and Putnam 2007; Rothstein 2001; Uslaner and Brown 2005; John and Morris 2004) *democratic values* such as tolerance (Slomczynski and Shabad 1998; Finkel and Ernst 2005) and *political attentiveness* (Ekman 2007; Denver and Hands 1990). Drawing on these studies, we derive the expectation that the gap between students on practical and vocational programs are decreasing after the reform as an effect of the extended length of vocational educations and the increased amount of civic education courses.

Moreover, of specific interest in relation to our case, scholars have recently argued that it is not education per se, but rather specific kinds of curriculum that promotes political participation (Hillygus 2005; Nie and Hillygus 2001; Niemi and Junn 1998). In these studies, a social science curriculum is shown to be especially effective to improve civic virtues. This gives us a twofold reason to expect that the reform had positive effects. Drawing on these studies it is reasonable to expect that not only the extension of educational length, but also the increase in the amount of civic courses given, will positively affect the indicators of democratic citizenship among these students.

2) Why we have reason to expect that the reform will *not* reduce the gap -

The pre-adult socialization model

However, in the literature on educational effects, there is no agreement that education has absolute effects on individuals’ civic virtues in late adolescence. An implication of the well known *pre-adult socialization model*, is that education in late adolescence has no or very limited effects on levels of democratic citizenship since individuals’ political predispositions are already established when students enter upper secondary

schools (Sears and Funk 1999; Searing, Wright, and Rabinowitz 1976; Alwin and Krosnick 1991; Hooghe and Wilkenfeld 2008; see also Sears and Levy for a research survey).³ Selection mechanisms in early adolescence have already shaped individuals choice of educational program; this means that civic education given to 17-19 year olds can not be expected to have any substantial effects on democratic citizenship (e.g. Cassel and Lo 1997; Jennings and Niemi 1974; Langton and Jennings 1968; Sears 1989).⁴ In particular, researchers who argue that political socialization is a process that takes place early in life tend to put more emphasis on the persistent impact of parents rather than the effects of schools (Beck and Jennings 1991; Achen 2002).

In conclusion, the pre-adult socialization model predicts no significant changes of the gymnasium reform since individuals' predispositions are already in place when they reach late adolescence (17-19 years old). In other words, if the hypothesis is to be proven valid, no significant decrease in the gap between students on theoretical and vocational programs after the reform are expected.

3) Why we have reason to expect that the reform will *partially* decrease the gap – The sorting model

At this stage, we also wish to include a third model that makes a more detailed account of what kind of educational effects can be expected. This is the so-called *sorting model*, which has recently been under debate in the literature on the civic effects of education (e.g. Nie, Junn, and Stehlik-Barry 1996; Nie and Hillygus 2001; Hillygus 2005; Tenn 2005; Helliwell and Putnam 2007; Campbell 2006; Desjardins 2008).

The *sorting model* rests on the distinction between absolute and relative effects of education. These two distinctively different kinds of effects refer to two different causal relationships between education and democratic citizenship. According to Norman H Nie, Jane Junn and Norman Stehlik-Barry (NJSB), education is supposed

³ A version of this model is sometimes referred to as the “impressionable years model of political learning”, according to which “core dispositions continue to crystallize well past adolescence, although at a slowed rate, perhaps reaching an asymptote at the end of early adulthood” (Sears and Funk 1999, 2).

⁴ An extended argument is put forward by Robert Luskin (1990). He claims that education does not have any major influence on ‘political sophistication’. Education has, according to Luskin, only a spurious effect; it takes credit for other factors such as intelligence. In addition Alford, Funk and Hibbing (2005) have recently argued that genetics may have effects on political attitudes and behavior.

to affect individuals' *political enlightenment* (i.e. political knowledge and democratic values) in an absolute way via the *cognitive pathway*. On the other hand, education is supposed to have impact on *political engagement* (i.e. political participation) in a relative way via *the positional pathway*.

When it comes to *political participation*, education is seen as a 'positional good': education matters to the extent that it determines a *person's social network position*. It is assumed that it is not what is learned in school that promotes political participation, but rather an individual's social network position. Education works as a sorting mechanism, placing those with higher education closer to the centre of political networks (Nie, Junn, and Stehlik-Barry 1996). NJSB writes: "When education works as a sorting mechanism by placing those with higher levels of education in positions closer to the center of social and political networks, more education among citizens only raises the baseline level of education for all positions." (Nie, Junn, and Stehlik-Barry 1996, 131-132). When education has effects through *the positional pathway*, the level of an individual's political participation depends on the relative social network position (which may be predicted successfully by education levels) rather than the skills promoted by education.

On the other hand, when education has effects through *the cognitive pathway*, individuals' verbal and cognitive skills are promoted in an absolute way. These skills are subsequently supposed to increase individuals' possibilities to gain knowledge about politics and appreciate the norms and legitimacy of democracy.⁵

In conclusion, the sorting model predicts that a raise in the educational levels will *not* lead to an increase in the levels of political participation. However, raised educational levels will make the citizenry more tolerant and knowledgeable. In this article, we will test the following hypothesis: since students on vocational programs maintain a lower position in the education hierarchy even after the reform compared to students on theoretical programs, we should not expect any significant increase in the levels of *political participation* among students on vocational programs. In other words, the gap considering political participation between students on theoretical and

⁵ Considering political enlightenment, NJSB assume that education has absolute effects (in precisely the same way as predicted by the absolute education effects hypothesis introduced earlier). Absolute education effects should be understood as effects on an individual's proficiency that is not dependent on other persons' levels of education. The assumption that education has absolute effects on democratic enlightenment (i.e. political knowledge and democratic values) is due to the non-competitive in character of these skills.

vocational programs should not have been reduced after the reform. This is due to the fact that the effects of education on political participation are supposed to be relative: since the relative positions in the educational hierarchy remains constant we have no reason to believe that the gap should be leveled out.⁶ Yet, the gap concerning political knowledge, political attentiveness and trust⁷ should have been reduced due to the fact that education is supposed to not have relative effects on these dimensions.⁸ Incorporating *type of education* into the sorting model may seem to be a rather simple modification of this model. However, it has as far as we know, not been done before.⁹

The empirical analyses are tailored to evaluate the credibility of the three models. The *absolute education effects models* expects to find positive education effects on all four core indicators of democratic citizenship, while the *pre-adult socialization model* expects the effects of the educational reform to be small or nonexistent. The *sorting model* expects to find significant effects of education on political knowledge, attentiveness and trust but not on political participation.

However, it is important to keep in mind that our focus is on whether the gap between vocational and theoretical programs was reduced as a consequence of the reform. To sum up, the three models predict the following consequences of the gymnasium reform regarding the civic gap: a) the *absolute education effects model* predicts that the gap is reduced, b) *the pre-adult socialization model* predicts that the gap will prevail, and c) *the sorting model* predicts that the gap is partially reduced: the gap is expected to be reduced for political knowledge, attentiveness and trust, but not for political participation.

⁶ In a study of Swedish youths conducted by the Swedish National Agency for Education it is shown that students on vocational programs still have lower status than students on theoretical programs after the reform. Both students from vocational and theoretical programs argue that vocational students have the lowest status whereas theoretical student have higher status (National Agency for Education 1995).

⁷ It should be noted that trust is not investigated in NJBS' analysis. However, Helliwell and Putnam (2007) have later shown that the effects of education on trust are cumulative rather than relative.

⁸ In fact NJBS (1996, 61) argue that the effect of education on political attentiveness could be *both* absolute and relative. Yet, this gives us reason to expect the gap concerning political attentiveness should be reduced to a greater extent than the gap in political participation.

⁹ To our knowledge, the only attempt made to include other factors than length of education into the sorting model is done by Hillygus (2005) who includes both quality of the institution attended and the curriculum studied in her "social network hypothesis".

THE SWEDISH GYMNASIUM REFORM IN 1994

The Swedish reform of the educational system in the 1990s provides us with a natural experiment long wished for in previous research. As David E. Campbell points out: “analysts should be aware of the research possibilities that arise from a change in a nation’s compulsory education laws” (Campbell 2006, 37). Furthermore, policy recommendations to undertake school reforms in order to improve citizenship characteristics are very common when scholars discuss their results and make the final comments on their findings (e.g. Macedo 2003, 149-159; Delli Carpini and Keeter 1996, 278; Conover and Searing 2000; Nie and Hillygus 2001; Niemi and Junn 1998, 149-159). This article is our response to their call for more systematic evaluations of authentic educational reforms that already have been implemented in a large scale.

The political intention behind the new architecture of the “unified gymnasium” was to create a “school for everyone” that functioned like a “social equalizer”. One of the explicit ambition was to level out the socio-economic gap between students on theoretical and vocational programs (Government Bill 1990/91:85; SOU 1997:107 1997; Lundahl 2002, 691-692). Vocational programs were extended from two to three years and the amount of civic education provided to students on vocational programs increased from virtually zero to one hundred lesson hours. As a consequence of the reform, all students were after 1994 – at least in theory – exposed to the same amount of training in the core courses (including civics).¹⁰

The Swedish educational reform in 1994¹¹ harmonizes with a long egalitarian policy tradition aiming to maximize equality in opportunities in access to education (see Meghir and Palme 2005 for a study of the effects of prior educational reforms). Historically, education policies have been considered to be a central part of the Swedish Social Democrats attempts to promote social equality. For example, in his study of the ‘social democratic state’ Bo Rothstein claims that “school policy, just as labor market policy, was a component of a comprehensive political model for social change” (Rothstein 1996, 65). The unification of theoretical and vocational programs in 1994 was made in accordance with this tradition, since it was intended to reduce

¹⁰ However, since students on, for example, the social science program take extra civics courses in addition to the core courses, they do still have a larger amount of civics courses than students on vocational programs.

¹¹ The decision was made in 1991, but the reform was implemented on a national scale in 1994.

well documented differences between students on educational programs depending on social background (Ekström 2003, 3; Lindensjö and Lundgren 2000, 4).

The reform generated a massive reconstruction of the gymnasium in order to achieve social equality (SOU 1997:107 1997). In an international comparison, similar unifications of theoretical and vocational educational programs at a national scale are very rare (Lindberg 2003). In this context, four main changes of the Swedish gymnasium are important:

1) *Extension of the length of vocational education programs.* In the previous system the length of the programs varied from two (vocational) to two, three or four years (theoretical). In the new gymnasium, all educational programs were standardized to three years of length (SOU 1997:107 1997).

2) *Introduction of core subjects.* Additionally, a system with ‘core subjects’ was introduced. All ‘core subjects’ – such as mathematics, English, and civics – are studied on all educational programs. They should also be equivalent when it comes to the courses ‘goals to aim for’, and the overall curriculum content and structure; regardless of on what program they are given. In other words, students on the social science and natural science programs takes the same core courses as students on, for example, the motor and transport engineering program or food manufacturing program.¹²

3) *Equal access to higher education.* In the pre 1994 gymnasium, students on vocational programs did not meet the requirements for admittance to universities. Making the universities open and accessible to all young citizens was a main objective with the reform of the educational system (see e.g. Björklund, Edin, and Krueger 2004; Westling Allodi 2007). Consequently, after 1994, pupils who successfully graduate from all national upper secondary school programs, including the

¹² Lgy70 was the valid curriculum before 1994. When Lgy70 were in practice, students in the practical vocational programs had to choose at least one of the following subjects to spend maximum three hours every week on: English, religion, psychology, social science, consumer knowledge, mathematics, art or music. Consequently, depending on the choice of subjects, some students did not attend any social sciences (civics) courses at all in the upper secondary school. After the reform, the core subjects cover a substantial part of the 2 500 upper secondary credits that every program comprise: “All of the national programs include the eight core subjects of: English, the Arts, Physical Education and Health, Mathematics, General Science, Social Studies [civics], Swedish (or Swedish as a Second Language) and Religion. Together, the core subjects add up to 750 credits” (National Agency for Education 2000). Consequently, every student on a national program takes 100 credits in civics. 1 credit is equal to 1 lesson hour. In 2004, 74 per cent of the students on upper secondary schools studied on national programs.

vocational programs, matched the matriculation requirements for university studies (National Agency for Education 2000).¹³

4) *Democratic fostering*. The fostering of young citizens democratic virtues was much more heavily emphasized in the new curriculum (lgy94) than what was the case under the old regime. For example, two of the central goals for schools to ‘strive towards’ is to “develop [students] will to actively contribute to a deeper democracy in working and civic life” and “on the basis of knowledge and democratic principles further develop their ability to work in democratic ways” (The National Agency for Education 2006, 15).

DATA

We aim to estimate the effects of the reform on the gap between students from theoretical and vocational programs on four core dimensions of democratic citizenship: political participation, knowledge, attentiveness and trust. Unfortunately, this broad array of dependent variables is not to be found in a single survey. Because of this, our evaluation of the Swedish educational reform rests on statistical analyses of data from three sources: 1) the Swedish National Election Studies (SNES 1994, 1998, 2002, and 2006), the Swedish Citizen Study (SCS 1987, 1997, and 2002), and the studies from the Society-Opinion-Media institute (SOM 1998-2006, YouthSOM 2000). All studies are based on national representative samples (except YouthSOM). The SNES-studies and SCS-studies are based on face-to-face interviews (response rates vary between 69 and 80 percent) carried out by the Statistics Sweden (SCB), while the SOM-studies are based on mail questionnaires carried out by the SOM-institute at Gothenburg university (response rates vary between 60 and 68 percent).¹⁴

We would like to emphasize that the use of these datasets for measuring effects of education has considerable advantages compared to the data used in most studies of educational effects. In general the data that is used in these kinds of studies is questionnaires distributed in classrooms. There are several disadvantages with this

¹³ After the 1991 reform, so-called national programs were introduced; all of these programs are three years. After a modification of the curriculum in 2000, there are 17 national programs. As pointed out by the national educational board: “The programs provide a broad general education and eligibility to study at the university or post-secondary level” (National Agency for Education 2000).

¹⁴ With the exception of the SCS 2002, SOM 2006, and SNES 2006, all data are deposited at the Swedish Social Science Data Service (<http://www.ssd.gu.se>). SCS: SSD0474, SSD0796. SNES: SSD0812, SSD0750, SSD0570, SSD0812. SOM: SSD0851, SSD0827, SSD0813, SSD0801, SSD0797, SSD0761, SSD0746, SSD0739, SSD0821.

kind of data. For example, since students are too young to vote, there is only possible to measure *the intention to vote*. The problem is that we do not know whether intention to vote is a good predictor for actual voting later in life. Furthermore, the environment in which the questionnaires are distributed may have a negative bias on the results. It is an important advantage that we do not rely on measure of *intentions* to participate in political activities, but rather *actual performances* of political activities. Furthermore, using these datasets gives us the opportunity to investigate whether there are long-term effects of education. That would of course be impossible if we rely on data that draw on classroom distributed questionnaires.

We pooled together the respective datasets from each series (SNES, SCS, and SOM) and constructed subsets consisting of respondents 29 years or younger at the time of interview. The cutting point 29 years was chosen to strike a balance between two conflicting criteria: at the one hand we wanted to analyze data collected as close to graduation from the gymnasium as possible. On the other hand, we had to be certain to have enough respondents in our statistical analyses.¹⁵

The design of the study is equivalent to 2x2 factorial experimental designs. The two factors are 1) *regime* (levels are pre and post the educational reform of 1994) and 2) *educational program* (levels are theoretical and vocational). However, it is not the main effects of regime or educational program that is our main concern here. The empirical analyses focus on the *interaction effect* of regime (PP) and educational program (TV). It is the size and direction of the effect (PP×TV) that determine the credibility of the three hypotheses.

The empirical analyses will advance as follows. First, descriptive statistics for all core indicators of democratic citizenship are reported. Here we also present t-tests for differences of means between *educational programs* for both educational systems (pre and post reform). Secondly, we perform analyses of variance in order to test whether the interaction effects (PP×TV) are statistically significant. Results from the

¹⁵ The inclusion of respondents that have graduated up to ten years ago may be considered to have potentially negative implications for our analysis. Obviously, processes that take place during the period after graduation may substantially blur the direct effects of education. Moreover, it is well known that other transitions in a young person's life (getting a job, finding a partner, building a family) may also have large effects on core indicators of democratic citizenship. However, let us underscore what we are interested in *whether the reform had any long-term equalizing effects on democratic citizenship*. Consequently, in this article we are not interested in the effects of education in relation to other factors that may also have influence on levels of democratic citizenship. What we are interested in is whether the new reformed gymnasium leveled out the systematically unequal levels in indicators of democratic citizenship.

ANOVA are illustrated with a number of graphs. Thirdly, we perform additional tests for potential alternative explanations to why gap between students on vocational and theoretical programs may or may not have changed after the 1994 reform.

Given the centrality of the effects of education in contemporary political participation research, one would expect that large national surveys included extensive and standardized measurements of all dimensions of education (length, type, content, and educational trajectories of individuals). Unfortunately, we have become aware that most surveys actually do not. Consequently, the precision in the educational program variable varies between data sources.¹⁶

In the SNES-datasets there is only information about each respondent's highest achieved education. This means that if a person has achieved a university degree later in life, we cannot tell which gymnasium program this individual attended. Before 1994 this constitutes no considerable problem, since only those who went to theoretical programs met the entrance requirements to universities. We can quite certainly predict that an individual who has attended education at the university level has a theoretical gymnasium education.

In the years after the reform this is more complicated since students from vocational programs also met the entrance requirements to universities. Even so, we know from external sources that university students mainly have a study background from a theoretical gymnasium program.¹⁷ Individuals with post-gymnasium education are therefore coded as belonging to those who attended a theoretical program. Of course, it would be preferable if we had information about every respondent's gymnasium education. However, the alternative way to handle the situation – to exclude those who went to higher education after their gymnasium education – seems

¹⁶ Preceding the reform, a pilot scheme that offered three-year vocational programs was carried out in a number of municipalities. It would have been preferable if we could compare students who went to the pilot scheme programs to those who went to the 'old' gymnasium at the same time. For a number of reasons we have not been able to do that. First, we do not know in which municipality the respondents went to gymnasium. Therefore, we cannot distinguish pilot scheme municipalities from non-pilot scheme municipalities. Secondly, in the pilot scheme municipalities, students were offered both two and three year study programs. Therefore, even if we knew at which municipality each respondent attended gymnasium studies, we cannot say if he or she went to a pilot scheme program or not. Unfortunately, the pilot scheme brings some marginal distortion to our education program variables before the reform. The number of students who attended pilot scheme programs were 5.8 per cent during the first year, 9.4 per cent during the second and 10.5 per cent during the third year. See Ekström (2003) for a detailed account of the pilot scheme.

¹⁷ For example, in 2006, 74 percent of those who attended universities before they were 21 years old had completed a theoretical study program (Swedish National Agency for higher Education / Statistics Sweden 2007, 80).

more problematic and unattractive. Excluding these respondents would give a distorted impression of students on theoretical programs since those who do not attend university education after graduation from a theoretical gymnasium study program are a minority of these students.

Since the SNES studies are two wave panels between elections, we can make corrections to the education variable by using information about respondents' gymnasium education taken from a previous panel wave. To compensate the lack of precision in the gymnasium education variables we will analyze the differences between students who went to universities and students who 'only' went to theoretical gymnasium educations. In the SNES 2002 and 2006 we have access to register data of all respondents' exact level and type of education. In the earlier surveys we rely on answers of an interview question about respondents' education.

In the SCS-survey, we use the same procedure, coding university graduates as belonging to those who attended theoretical gymnasium study programs. In SOM, we have a question about the level of education but also a question about the type of education that gives us the possibility to distinguish between vocational and theoretical programs. Lastly, in YouthSOM there is fortunately a very precise question about what specific study program individuals has attended during the gymnasium. The education variable in this dataset is therefore very accurate.

Let us now introduce the indicators of democratic citizenship we will use to test the credibility of the three models.¹⁸ In this article, we investigate four core dimensions of democratic citizenship – i.e. political participation, political knowledge, political attentiveness and trust.¹⁹ We do not claim that the four dimensions of democratic citizenship represent a conclusive characteristic of the ideal democratic citizen. What kind of citizenship ideal that is considered as most desirable is of course depending on which democratic theory one vindicates. However, the four dimensions constitute what we believe are the central elements of democratic citizenship that most often appear in analyses in contemporary literature. All dependent variables in the analyses have been coded so that they vary between 0-1 where 1 indicates a

¹⁸ Unfortunately, we have not been able to include the dimension *democratic values* such as tolerance in our analysis. The available datasets lack measures of tolerance that is comparable before and after the reform.

¹⁹ Trust is not usually included as an indicator of democratic citizenship in studies of educational effects. However, since trust is a central element of social capital, which is considered to be fundamental for a democratic society to be well functioning (Putnam 1992) we have included it in our analysis.

positive answer (i.e. highest level of participation, knowledge, etc). First, we investigate four different indicators of *political participation*: voter turnout, party activities, contacting and manifestations. Second, the *political knowledge* variables consist of two index variables. The first index is made up of a set of questions concerning knowledge about which party a set of political leaders represent. These politicians are not party leaders; however they have actively taken part in the political debate and have frequently been exposed to media coverage of Swedish politics. Thus, a political knowledgeable person would be aware of which party they represent. The second political knowledge index consists of eight questions concerning political events and the political system with true or false answers.

Third, *political attentiveness* is measured by an additive index that is produced by three variables concerning political interest, to what extent an individual read about politics in newspapers and the level of participation in political discussions. In addition, we also use a standard survey question about political interests.

Fourth, the two *trust* measure political trust and interpersonal trust. The first one concern to what extent respondents trust Swedish politicians. The second question is about to what extent the respondent believes that one can trust other people in general. Further details about coding and question wording are found in Appendix A.

RESULTS

We begin our analyses with presenting descriptive statistics for all core indicators of democratic citizenship in the table 1. In addition, we present results from 10 of the indicators as graphs to illustrate the change of the gap after the reform. In table 1, we present the mean scores for citizens who went to theoretical and vocational study programs before respectively after the reform. We also present differences of means between educational programs for both educational systems. To compare whether the differences between students on theoretical and vocational programs are statistically significant we conducted two-sample t-tests, adjusted for unequal variances when necessary. In all, we report 28 t-test on 14 indicators to compare students from theoretical and vocational study programs on the core dimensions of democratic citizenship.

Regarding political participation, the results show that citizens who have completed theoretical educational programs score higher than those who attended

vocational programs in *every comparison*. When comparing students on theoretical and vocational study programs after the reform, students from theoretical programs still attain higher levels in every comparison concerning political participation. Regarding party activities and manifestations, the gap is actually *increasing*.

On the other hand, the gap has declined regarding contacts. But the decline of the gap is mostly due to the fact that students on theoretical programs who went to the new gymnasium score lower than students who went to comparable study programs earlier. So, it is not the kind of decreased gap that is expected, *ceteris paribus*, by the absolute education model. Apparently, this model expects that the gap is closed due to the fact that the levels in political participation among students on vocational programs are leveled up.

Next, we look closer at the knowledge gap. If the sorting model and the absolute education model should gain support, the raised educational levels would lead to a citizenry that is more knowledgeable. However, the knowledge gap is intact after the reform. The overall trend is that the levels of political knowledge are declining; yet the gap remains. In relation to prior research it is somewhat surprising that the gap concerning political knowledge has not been reduced as a consequence of the increased amount of civic education that the students on vocational programs have been exposed to.

Return next to political attentiveness. Once more, the same pattern is visible. The levels of political attentiveness are declining, yet the gap remains. A statistically significant gap is evident in all comparisons between students on theoretical and vocational study programs both before and after the reform.

Regarding trust we also notice a statistically significant gap both before and after the reform. The gap slightly decreasing in one of the comparisons is. In two of them it is slightly increasing and in the fourth comparison the gap is constant. So, even if the size of the gap varies in our measures it clearly exist a gap in levels of trust before the reform and it remains afterwards.

Table 1. Average scores on indicators of *political participation* among citizens 18-29 years who have completed vocational or theoretical study programs pre- or post the 1994 educational reform (Means, SD, and differences of means). F-values for the *interaction effect* of regime (Pre Post), educational program (Theoretical Vocational) and (PPxTV).

	Pre Reform – Vocational Mean	Pre Reform – Theoretical Mean	Differences of means	Post Reform – Vocational Mean	Post Reform – Theoretical Mean	Difference of means	F _{PP}	F _{TV}	F _{PPxTV}	n
POLITICAL PARTICIPATION										
Voting ¹	.79	.91	+ .12***	.77	.89	+ .12***	1.53	53.99***	0.01	1842
Party activities index ²	.02	.04	+ .03**	.00	.05	+ .05***	0.15	5.30**	0.33	484
Contacting ²	.10	.14	+ .03	.07	.10	+ .02	2.03	1.43	0.03	484
Contacting ¹	.06	.15	+ .09***	.08	.11	+ .03	0.52	13.64***	3.19*	885
Manifestations ²	.18	.21	+ .03	.12	.20	+ .08**	2.38	6.23**	1.47	478
POLITICAL KNOWLEDGE										
<i>Factual knowledge of current state-of-affairs and the political system</i> ¹	.60	.68	+ .08***	.46	.57	+ .10***	50.49***	89.54***	2.38	1333
<i>Factual knowledge of political representatives</i>	.22	.40	+ .18***	.13	.26	+ .13***	97.48***	53.86***	0.70	1190
POLITICAL ATTENTIVENESS										
<i>Political attentiveness index</i> ¹	.41	.52	+ .11***	.37	.48	+ .12***	8.10***	71.48***	0.07	1190
<i>Political interest</i> ³	.42	.53	+ .11***	.35	.51	+ .16***	18.61***	183.19***	6.02**	3310
<i>Political Interest</i> ⁴	.40	.53	+ .13***	.37	.49	+ .12***	6.76***	62.45***	0.20	1105
TRUST										
<i>Interpersonal trust</i> ³	.60	.65	+ .06***	.55	.63	+ .08***	18.86***	58.62***	1.84	1578
<i>Interpersonal trust</i> ⁴	.56	.66	+ .10***	.58	.64	+ .06***	0.05	31.33***	1.69	1085
<i>Political trust</i> ³	.37	.40	+ .03*	.37	.44	+ .07***	2.68	13.37***	2.74*	3307
<i>Political trust</i> ⁴	.22	.26	+ .04**	.24	.28	+ .04*	1.41	4.82**	0.00	830

Comment: ¹ Source: The Swedish National Election Surveys 1994, 1998, 2002 & 2006. ² Source: The Swedish Citizen Surveys 1997 & 2002. ³ Source SOM-Surveys 98-06. ⁴ YouthSOM 2000. ***=p<.01, **=p<.05, *=p<.1.

To conclude, no equalizing effects of the reform are visible in our results. In every comparison there is gap between students from theoretical and vocational study programs. Most importantly, students from vocational programs always score lower. The gap is statistically significant in 20 of 24 comparisons. Only on one indicator – *contacting* – does the gap cease to be significant after the reform, but in this case it is mostly due to the fact the scores among students on theoretical programs are declining.

Furthermore, we deconstructed all the indexes (except the knowledge indexes) and conducted t-test on each and every single variable that the indexes are made up of. In total we conducted 54 comparisons. Students from theoretical programs scored higher than students from vocational programs in 51 tests. The differences were statistically significant in 37 of 54 tests. Regarding six single variables (all of them concerning *contacting* or *manifestations*) significant differences before the reform ceased to be significant after the reform. But it is very important to note that in none of these cases are the decreased gaps due to vocational students reaches the same levels as theoretical students. In fact the results show the a contrary trend, in all the six cases where significant gaps before the reform end up being significant afterwards it is *mostly due to the fact that the scores among theoretical students are leveled down*. The leveling down tendency among students on theoretical programs is stronger than the leveling up trend among vocational students in five of the six cases where the gap is decreasing. In the sixth case, the differences have diminished due to both groups having lower levels after the reform.

Our next step was to conduct ANOVA-tests in order to examine whether interaction effects of study program and educational system are statistically significant. The results from the ANOVA are reported in the three columns to the right in table 1. Here we show the F-tests for the two factors (TV + PP) and the interaction effect. In all, 14 ANOVA-test were conducted. At this point it is the interaction effect that is of interest. If the absolute education model makes correct predictions, we should see significant interaction effects between regime and program on every indicator and this should, *ceteris paribus*, be a result of a levelling up trend among citizens who went to vocational study programs. On the other hand, if the sorting model is correct these effects should be absent on political participation, yet the citizenry should be more politically knowledgeable, political attentive and trustful.

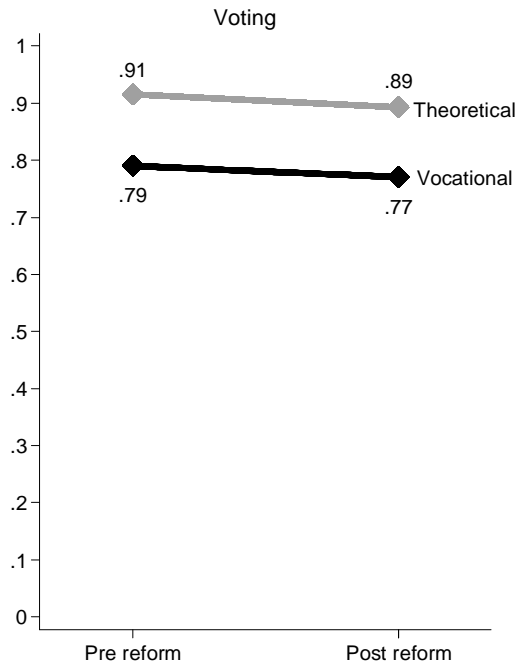
We begin to look closer at the indicators of political participation. We only find one significant interaction effect on these indicators and that is *contacting*. But as pointed out earlier, this is mostly due to a leveling down tendency among students from theoretical programs.

Regarding political knowledge and attentiveness there is no significant interaction effect. We have also conducted ANOVA on the single variables of political interest. The interaction effect is significant in one of these tests, but this is due to an *increase of the gap*. As regards trust, there are neither any significant interaction effects that are due to a decrease of the gap. The interaction effect is insignificant in three of the four tests on the trust indicators. In the fourth test the interaction effect is significant due to an *increased gap*.

To sum up, the gap between students on vocational and theoretical programs remains. It is remarkable that we find no significant interaction effect that is a consequence of vocational students catching up with the citizens who went to theoretical gymnasium study programs. Consequently, the hypotheses about positive effects of education gets weak support since the gap between students on different study programs are not leveled out after the reform, not even partially as predicted by the sorting model. Quite the contrary, the results are in accordance with the predictions made by the pre-adults socialization model.

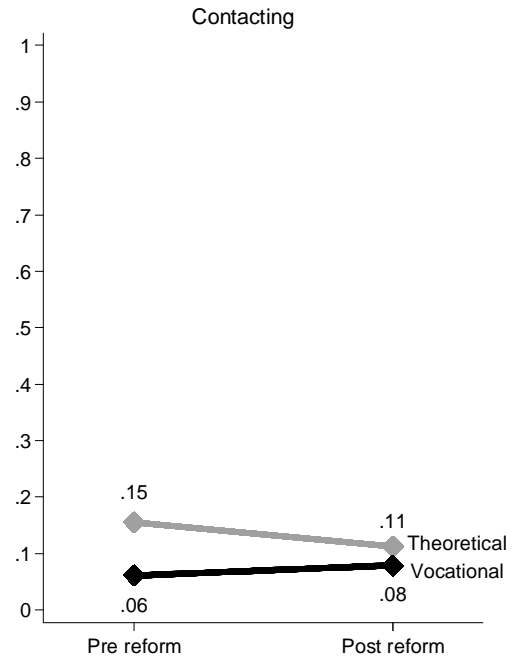
However, note carefully that we do not claim that education does not have any civic effects whatsoever. What we do claim to have shown is that extended educational levels at this stage, i.e. late adolescence, do not seem to work as a quick fix to equalize asymmetrical levels in political participation, knowledge, attentiveness and trust among citizens with different types of education. Our point is only that the school *reform did not reduce the gap* between students on theoretical and vocational programs.

Figure 1a



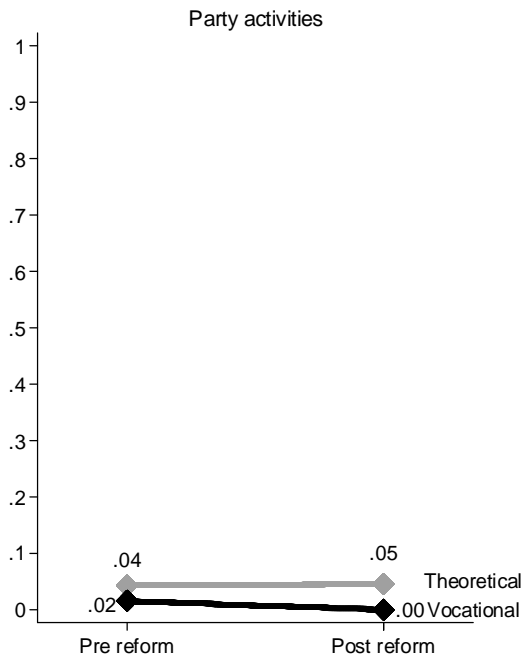
Source: SNES 1994, 1998, 2002 & 2006 (n=1842).

Figure 1c



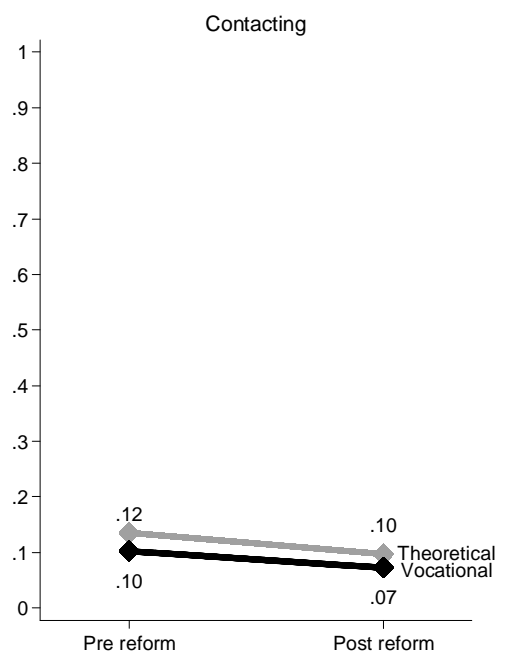
Source: SNES 1994, 1998, 2002 & 2006 (n=885).

Figure 1b



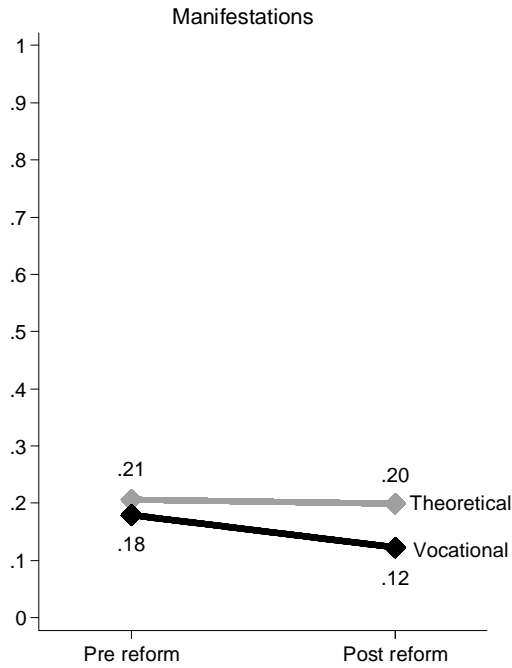
Source: SCS 1997 & 2002 (n=484).

Figure 1d



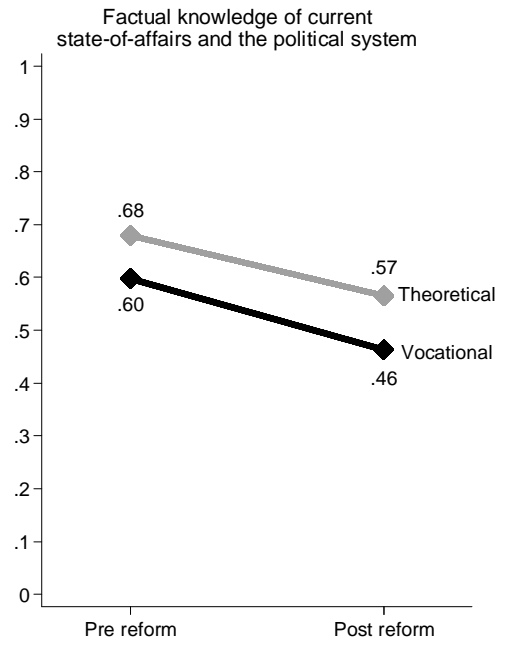
Source: SCS 1997&2002 (n: 484).

Figure 1e



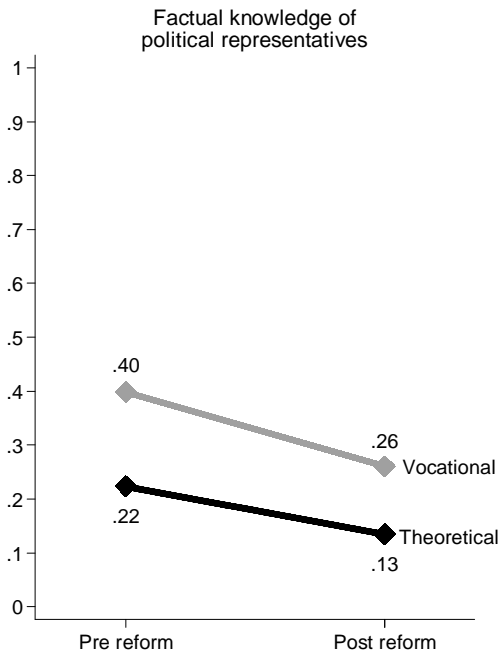
Source: SCS 1997 & 2002 (n=478).

Figure 2b



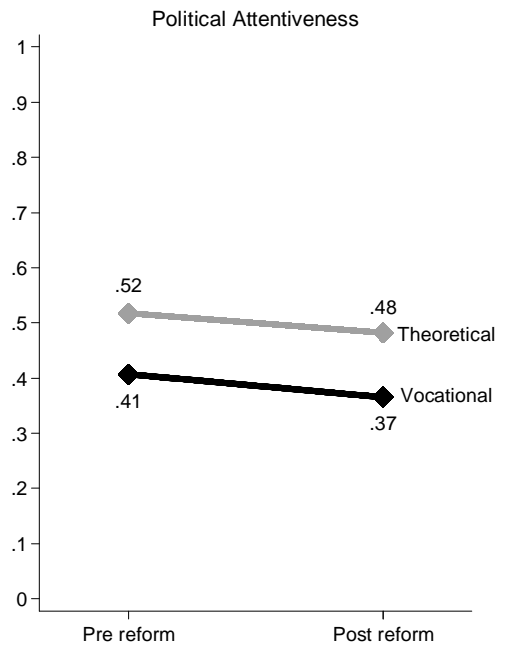
Source: SNES 1994, 1998, 2002 & 2006 (n=1333).

Figure 2a

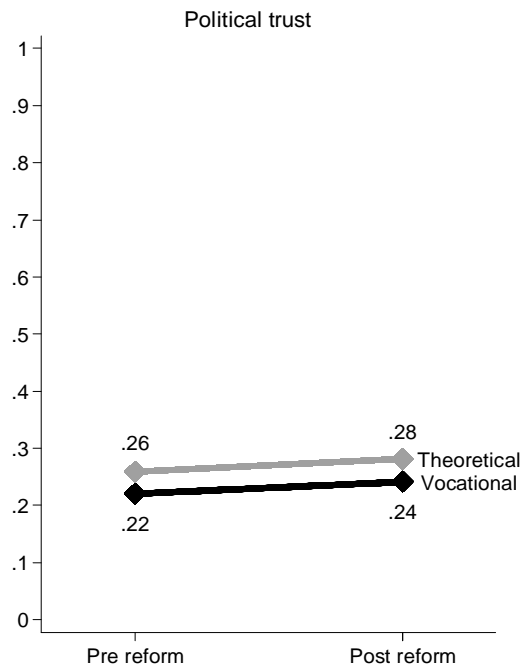


Source: SNES 1994, 1998, 2002 & 2006 (n=1209).

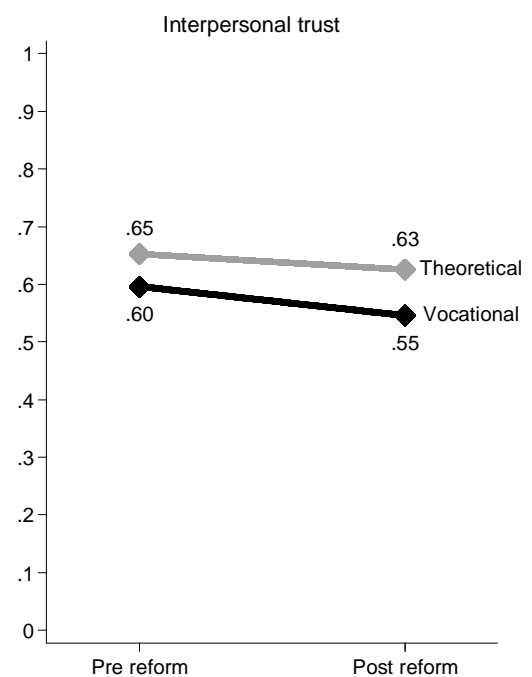
Figure 3



Source: SNES 1994, 1998, 2002 & 2006 (n=1190).

Figure 4a

Source: YouthSOM (n=830)

Figure 4b

Source: SOM 1998-2006 (n=1578)

ADDITIONAL TESTS

Even though our results show no indications that the reform of the Swedish educational system had any equalizing impact on the unequal levels of democratic citizenship indicators, it could still be possible that the models that predict positive effects of education on democratic citizenship are correct. Maybe the positive effects have been cancelled out by other factors? In order to investigate whether cancelling out effects are hiding the positive effects of the reform, we will respond to a number of objections that may arise. We will discuss four potential objections which may explain the absent positive effects of the reform: a) demographic changes, b) slow implementation, c) contextual changes and d) imperfect education program variables.

1) *The gap was not reduced because of demographic changes?*

One might raise the objection that our results do not show a closed gap between students on theoretical and vocational study programs because of demographic changes. We will investigate how forceful this objection is by examine whether there was any change in the proportion of students with different social characteristics on

theoretical and vocational programs after the reform. Did the study programs tend to attract different groups of students after the reform compared to before?

First, let us consider the gender distribution on the study programs before and after the reform. The proportion of males is increasing from 53 to 61 percent on vocational programs after the reform.²⁰ The same tendency is valid in all our datasets. Can this explain why the differences between students from theoretical and vocational programs are not leveled out? It is unlikely that this could explain the absence of a decreasing gap concerning political knowledge since males generally score higher than females in our tests. Consequently, if more males were recruited to the vocational study programs we would expect the levels of political knowledge among those students to rise, not to decline. Even so, could it be possible that the changed proportion of males on vocational programs cancel out positive effects of education on political participation? Here we do not find a general trend that males score higher. But even if we isolate females, there is an increased gap between females on theoretical and vocational programs after the reform. Consequently, the changed gender distribution did not seem to cancel out the positive effects of the reform.

Secondly, did the reformed gymnasium change the choice of study programs among students from different social classes? Perhaps the reform did not level out the gap because a greater amount of students from the working class may have been recruited to vocational programs. Since it is well known that the levels of political knowledge and participation is lower in this group, one might believe that this tendency cancel out the positive effects.

This objection fails. Table 2 clearly shows that the social class distribution of students remained generally the same after the reform. The vocational programs remained dominated by working class students. Theoretical programs, on the other hand, have a broader base and are dominated by students from the middle class. This disproportional distribution of students from different social classes did not change after the reform.

²⁰ Source: SNES 1994, 1998, 2002 & 2006.

Table 2. Subjective class perceptions among students on theoretical and vocational gymnasium study programs before and after the 1994 reform (percent).

	Working class	Lower Middle class	Higher Middle class	Farmer	Company owner
Vocational programs					
Pre reform	78	11	0	4	6
Post reform	75	15	3	1	6
Theoretical programs					
Pre reform	39	28	23	2	8
Post reform	40	28	28	0	5

Comment: Source: The Swedish National Election Surveys 1994, 1998, 2002 & 2006.

2) The gap was not reduced because of slow implementation?

Major reforms of the educational systems may be difficult to implement and it will of course take a while to put a new educational system into practice. For example, Rothstein (1996, ch 7) has shown that prior school reforms in Sweden have been hard to implement. Among other problems, old practices may be inherited into the new system. Therefore one could argue that it is not reasonable to expect that the new system was completely implemented already in 1994; perhaps it had the predicted effects on democratic citizenship first after a few years time? Consequently, a possible objection to why our results do not show any reduced gap could be that we have not let enough time to pass after the reform. Maybe we simply expect too much to happen too soon.

We believe that our results hold for this objection. In order to undermine this counterargument we have rerun our tests and exclusively compared the results from the SNES 1994 and 2006. SNES 2006 is the most recent available dataset. At the time the survey was conducted, 12 years had passed after the reform. Even if the implementation of the reform was slow, it should by then have passed enough time for the reform to take effect.

Table 3. Average scores on indicators of *political participation, political knowledge and political attentiveness* among citizens 18-29 years who have completed vocational or theoretical study programs pre- or post the 1994 educational reform, SNES 1994 & 2006 (Means, SD, and differences of means).

	1994 (Pre Reform)			2006 (Post reform)		
	Mean	(SD)	n	Mean	(SD)	n
Political participation						
Voting						
<i>Vocational programs</i>	.85	(.36)	209	.77	(.42)	151
<i>Theoretical programs</i>	.94	(.24)	347	.94	(.24)	221
Differences of means	+.09			+.17		
P-value	.001***			.000***		
Contacting						
<i>Vocational programs</i>	.07	(.17)	181	.08	(.18)	38
<i>Theoretical programs</i>	.16	(.23)	290	.13	(.24)	70
Differences of means	+.09			+.05		
P-value	.000***			.131		
Political attentiveness						
<i>Vocational programs</i>	.45	(.17)	167	.43	(.21)	40
<i>Theoretical programs</i>	.55	(.18)	307	.54	(.19)	72
Differences of means	+.10			+.11		
P-value	.000***			.003***		
Political knowledge						
<i>Factual knowledge of current state-of-affairs and the political system</i>						
<i>Vocational programs</i>	.56	(.19)	186	.40	(.19)	79
<i>Theoretical programs</i>	.60	(.17)	322	.52	(.19)	142
Differences of means	+.04			+.11		
P-value	.005***			.000***		
<i>Factual knowledge of political representatives</i>						
<i>Vocational programs</i>	.29	(.25)	123	.13	(.15)	79
<i>Theoretical programs</i>	.42	(.27)	261	.25	(.22)	142
Differences of means	+.13			+.12		
P-value	.000***			.000***		

Comment:¹ Source: The Swedish National Election Surveys 1994, 1998, 2002 & 2006.
 *=p<.10 **=p<.05 ***=p<.01.

Table 3 shows a detailed comparison between the results from the 1994 and the 2006 SNES surveys. We can clearly see that the gap is not leveled out 12 years after the reform. The gap is even increasing regarding voting, political attentiveness, and ‘factual political knowledge of current state-of-affairs and the political system’. Once again, concerning contacting, the gap is reduced due to a leveling down tendency among theoretical students.

Additionally, we have conducted ANOVA to investigate whether the interaction effect between study program and educational system are significant when comparing exclusively the 1994 and the 2006 survey. The interaction effect is significant in two of the tests: voting and ‘political knowledge of current state of

affairs and the political system'. In both these cases this is due to an *increased gap* between citizens with different types of education. In conclusion, the objection that we do not notice a decreased gap because of slow implementation does not gain support in our analysis of the results from the 1994 and 2006. Even if we measure the levels of democratic citizenship characteristics 12 years after the reform – we still do not find any reduced gap.

3) The gap did not close because of contextual changes?

A third objection that could be raised is that the gap did not close because of contextual changes. The argument goes like this: it is not reasonable to expect a reduced gap as a consequence of the reform since the contextual factors during the late 1990s and early 2000s are utterly different from the contextual factors in the 1980s and early 1990s. First and foremost, the 1990s in Sweden were characterized by a severe low recession in the business cycle, while the 1980s was the heydays of an economic upswing. The economic crises in the 1990s may have put more pressure on students from vocational programs than students from theoretical programs. Citizens who attended vocational programs run a greater risk to get unemployed and their private economy was more vulnerable to the disadvantages that the recession resulted in. These factors may have caused them to lose faith in politics.

If the contextual factors had remained constant after the reform we may have seen a reduced gap, the argument goes. Unfortunately, we cannot control for this kind of contextual changes in our analysis. For that reason we cannot refute this argument. However, we do not consider this to be a decisive argument for two reasons. First, it is not necessarily obvious why these contextual factors should have a greater impact on students from vocational programs than students from theoretical programs. Secondly, it is not obvious why contextual factors of this kind should completely cancel out the positive effects of education on all examined dimensions of democratic citizenship. For example, why should an economic recession lead to the absence of positive effects of education on political knowledge and political attentiveness? Couldn't it be the other way around – young citizens get more politically attentive and gain more knowledge about politics during the recession since political issues at that time attract a lot of attention?

4) *Our results do not show a closed gap due to insufficient education program variables*

A fourth objection to our results is that our analysis rests on imperfect education program variables. The argument goes like this: since we (in some analysis) had no alternative but to code university graduates as belonging to the group of students who went to theoretical programs we do in fact measure the effect of university education rather than theoretical gymnasium study programs. We will show that this objection fails. Of course it is a weakness that we do not have perfect education variables in all datasets. However, we will put forward two arguments in order to show that our results do not rest in flawed measures.

First of all, in YouthSOM we have got close to perfect information about which study program an individual has attended. Still there is a statistically significant gap between students with different types of education in these analyses. If the counter-argument should be proven right no such persistent gap should be evident in our results.

Secondly in order to eliminate the possible effect of university education and isolate the effect of gymnasium education, we have rerun our analyses and excluded all respondents with a university degree. We have performed all our analysis ones again to compare students with different types of education, *this time exclusively those who ‘only’ have a gymnasium education*. The results show that even if those who have attended universities are excluded in the analyses there is still a gap between students with different types of education. Regarding political participation there still exists statistically significant differences (at the $p < .01$ level) on voting, manifestations and party activities. Concerning political knowledge and political attentiveness, there remains a statistically significant gap on all indicators (at the $p < .01$ level) between students with different types of education after the reform. As regards trust, we already have very precise education variables that confirm the persistence of the gap after the reform. In conclusion, even if we compare students from vocational programs with the students who have ‘only’ went to theoretical gymnasium programs and have no further education – the gap is still confirmed.

CONCLUSION

We have provided the first systematic analyses of the civic effects of the radical unification of the Swedish educational system in the 1990s. The results from our investigation clashes with the results (as well as many hopes and expectations) in previous research on educational effects. Years of education is generally considered to be a solid predictor for democratic citizenship dimensions such as political participation and political knowledge. However, we find that an additional year of education does not reduce systematic differences in levels of democratic citizenship characteristics related to type of education.

Furthermore, the conventional wisdom is that providing social science courses that explicitly aim at promoting students civic virtues will promote the various dimensions of democratic citizenship. In this case, however, the egalitarian reform of the Swedish gymnasium that paved way for more civic education did not produce hypothesized positive effects on any of the core dimensions under study. Systematic unequal levels in political participation, political knowledge, political attentiveness and trust between students on vocational and theoretical programs prevailed after the reform. Note that we do not argue that schools or the educational system causes differences between students with different types of education. What we do claim is that the reformed educational system has not been better able to reduce these differences than the previous gymnasium before the major changes in the 1990s.

However, on a number of indicators, the gaps between citizens from vocational and theoretical programs are actually decreasing. This could at first glance seem to support the absolute education effects model. But let us underscore that the absolute education model does not predict a reduced gap of this kind and it is not in accordance with the intention of the reform. This is due to the fact that the decreased gap is mainly a consequence of lower scores among students from theoretical programs after the reform. Since the intention with the reform was to promote equal outcomes, these results may be misinterpreted as being in accordance with the intentions of the reform. However, since these results were not predicted by any of the models presented, it could be useful to draw a parallel to the discussion on equality in moral philosophy to interpret these results. Derek Parfit (1997, 2000) has argued that equality could be achieved by leveling down the level of well being for those who are best off to the same level as those worse off. Now, equality would be

achieved – but since this change does not seem to be good for someone it seems counterintuitive to judge this outcome as better than the initial unequal state where people were overall better off. This argument, referred to as the Leveling Down Objection is widely considered to be of great force.

As a matter of fact, the intention with the reform was of course not to achieve equal civic outcomes by any means; rather the intentions were to raise vocational students to the same level as theoretical students. Likewise, the sort of equalized state predicted by the absolute education model should be, *ceteris paribus*, caused by raised levels among students from vocational programs. Unfortunately for the proponents of the absolute education effects model, we do not find a decreased gap of this kind. Even if we find some results that show a slightly decreased gap, these results are rare exceptions. The overall trend is that the gap between students who went to theoretical respectively vocational study programs prevails.

The persistent inequalities in levels of political participation may be considered to be troublesome for several reasons. A number of political scientists argue that equal levels of political participation should be considered to be a democratic ideal. For example, Verba, Schlozman and Brady (1995) argue that equal voice is necessary to give equal consideration to every one's interests. As Lijphart (1997, 1) writes: "unequal participation spells unequal influence". Furthermore our results support the well-known fact that "inequality of representation and influence are not randomly distributed but systematically biased in favor of more privileged citizens" (*ibid*).

What implications do our results have for the three explanatory models? The revised version of the sorting model does only gain partial support. According to NJSB, a more educated citizenry would be more knowledgeable and democratic enlightened. But the reform of the Swedish gymnasium has not had these effects. Our results rather support the pre-adult socialization model, since there are no significant effects of an extra year of education as well as an increased amount of civics courses.

Most importantly, our results weaken our confidence in the absolute education effects model. Our results show clearly that increased levels of education and changed curriculum content do not necessarily work as a quick fix to equalize levels of civic outcomes. But one should be careful to note that the absolute education model and the pre-adult socialization model represent two extreme expectations on the effects of education. We do not claim to have shown that education completely

lacks civic effects since we have not examined the effects of education in relation to other socializing factors. Nevertheless, it is not realistic to expect a linear effect of education on democratic citizenship. It is likely that education of some specific sort during some specific years may have severe effects. It is a central task for research on educational effects on democratic citizenship to investigate what kind of educations that has most effect at which point in life. Our contribution to the field is to show that a raise in the educational levels in late adolescence seem to be of minor importance; this period does not seem to be the ‘impressionable years’. However, this is somewhat unexpected in relation to previous research. For example Niemi and Junn conclude that civic education during post secondary school has the *most* impact (Niemi and Junn 1998, 156).

In relation to the fact that the gap is actually increasing on some indicators, we may perhaps instead consider whether extended length of education may have negative effects on democratic citizenship characteristics.²¹ Some young people does in fact not like being in school. Perhaps an extended education that demands greater efforts of the students places a burden on these young people. In effect, an educational system that demands greater efforts of students may marginalize those young people who do not manage to get all the way through the gymnasium successfully. In effect this may weaken their willingness to participate in civic activities, get knowledge about politics, etc.

Moreover, we wish to make clear once again that the design of this study do not permit us to discriminate the effects of *educational length* from the effects of *educational content*, since the reform brought about a simultaneous change in the number of years *and* the amount of civic education on the vocational programs. However, while educational length was increased and the curriculum content was modified, the overall type of education remained the same. Therefore, our results indicate that type of education is a potentially forceful factor that needs to be taken into account.

This is an important contribution to the discussion about the effects of education: the overall type of study program may matter more than has previously been acknowledged. However, the crucial question of *how* type of study program may matter remains unsolved. There are a number of potential explanations. First, certain

²¹ See Murphy (2007) for an argument *against* civic education in public schools.

subcultures may develop on specific study programs. The remaining gap between students on different educational programs may be a consequence of shared norms and patterns of behavior that evolve among students on the study programs. Secondly, it may be an effect of value transmission; since some curriculums put a greater emphasis on specific norms it is possible that it has effects on the students' political behavior. Thirdly, the quality of education in the core courses on vocational programs may be lower than on theoretical programs. It would be interesting to know more specifically what the teachers teach, how they teach it, etc. Moreover, since the classroom climate has been considered to be of major importance in a number of studies on educational effects it would be of interest to know whether the classroom climates may differ on vocational programs compared to theoretical programs.²² A fourth possibility is of course that the effect of education is spurious and what matters are family background and the environment in which people grew up. This is an urgent question for forthcoming research to deal with; is it type of education that causes systematic differences in levels of democratic citizenship or is these effects consequences of the environment in which people grew up? If type of education matters, how and why does it matter?

The absent positive effects from the Swedish reform of the educational system in the 1990s may seem to be disappointing for policy makers in other countries hoping to improve citizen literacy, levels of participation, etc, by education reforms. How come our results differ so much from the previous research on effects of education? One explanation may be that most studies draw conclusions from cross sectional data. Unfortunately, there are only rare opportunities to study natural experiments like this. Our results show that one should be careful to not draw the conclusion that there is an obvious causal relationship between length of education and the amount of civics courses vis-à-vis the characteristics of democratic citizenship.

²² Previous studies point out that the classroom climate on vocational programs generally is less open than on theoretical programs (Ekman 2007).

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APPENDIX A: QUESTION WORDING AND VARIABLE CONSTRUCTIONS

All dependent variables have been coded so that they vary between 0-1. 1 indicates that respondents give a positive answer to all the questions included in the index (or all correct answers to the knowledge questions).

Political participation

Party activities (SCS): Is an additive index produced by three dichotomy questions: are you a member of any “party or political organization?”; “during the last year, have you participated in any political meeting?”; “during the last year, have you been working in a political party?”

Contacting (SCS): Is an additive index produced by three dichotomy questions: There are different ways to try to make the society better or to counteract deterioration. Have you done any of the following during the last year: “contacting a politician?”; “contacting an association or organization?”; “contacting media?”, “contacting a civil servant in the state or municipality?”

Manifestations (SCS): Is an additive index produced by six dichotomy questions concerning whether the respondent have done any of the following activities: “signed a list of signatures”, “wearing campaign symbols”, “participated in a demonstration”,

“participated in illegal protest activities”, “collecting money to any organization or boycotting any goods”.

Voting (SNES): Consists of information from the electoral register concerning whether or not the respondents have been voting in the parliament (Riksdag) election.

Contacts (SNES): Is an additive index consisting of three questions (except for SNES 1994 which consists only of the two first questions): “During last year, have you been to any meeting or gathering where any member of the parliament has appeared?”, “During the last year, have you written letters or e-mail, or in any other way, tried to get in touch with any member of the parliament?”, “During the last year, have you visited any website belonging to a member of the parliament?”

Political knowledge

Political knowledge (SNES): Is an additive index based on five questions about Swedish politics and the political system. The index varies between 0 (0 right answers) and 1 (7 right answers).

The first political knowledge index – *factual knowledge of current state-of-affairs and the political system* – consists of eight questions concerning political events and the political system with true or false answers.

The second political knowledge index – *factual knowledge of political representatives* – is made up of a set of questions concerning knowledge about which party a set of political leaders represent. These politicians are not party leaders; however they have actively taken part in the political debate and have frequently been exposed to media coverage of Swedish politics.

Political attentiveness

Political attentiveness: Is an index consisting of three questions: “How much do you usually read of news and articles about politics in the newspapers?” Respondents choose one of four options: “1, I never read news and articles about politics. 2, I read news and articles about politics sometimes. 3, I often read news and articles about politics. 4. I read all there is of news and articles about politics in the newspaper every day.” The variable is recoded so that it varies between 0 and 1. Answer 1 is coded as 0 and answer 4 is coded as 1. The second question is: “How interested are you in general about politics? Are you very interested, fairly interested, not

particularly interested or not interested at all.” The variable is coded so that it varies between 1 (very interested) and 0 (not interested at all). The third question is: “How often do political discussions take place in your closest surroundings? Does it take place: very often, quite often, not very often or not at all?” The variable is coded so that it varies between 1 (very often) and 0 (not at all). The index variable is a mean calculated of the three single variables.

Trust

The two *trust* variables are collected from the SOM-surveys. The first one concern to what extent respondents trust Swedish politicians: “In general, how much trust do you have in Swedish politicians?” The respondents are asked to estimate their levels of trust on a four-graded scale.

The second question is about to what extent the respondent believes that one can trust other people in general: “In your opinion, to what extent can one trust people in general?” The respondents are asked to estimate their levels of trust on a scale from 0-10. 0 represents “it is not possible to trust people in general” and 10 represents “it is possible to trust people in general”. The variable is recoded so that it varies between 0 and 1.

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