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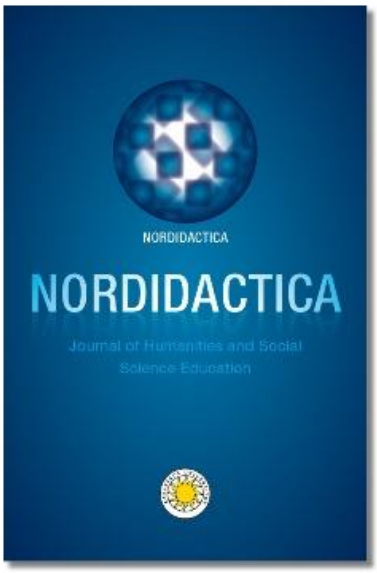

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Interest or importance: Predicting Finnish students' end-of-school attainment in history and social studies

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Abstract: The role of motivation plays an important role in learning and in international studies of learning outcomes. However, the cross-sectional nature of international studies does not allow causal conclusions regarding the relations between students' attainment and attitudes. A shared understanding of the intertwined relation between the two relies on evidence from other, more restricted longitudinal studies. In this article, we use longitudinal data to study the role of Finnish students' history and social studies-related attitudes and school achievement in explaining their attainment in a national test at the end of lower secondary education, and the impact of these on students' choice of and success in the respective exam(s) in the matriculation examination at the end of upper secondary education. Our results show that students grouped according to their choice of the history and/or social studies exam(s) in the matriculation examination differed significantly from each other in their subject-related attitudes, attainment in the national test, and school grades in the two subjects already three years prior to the examination. To end the paper, we will shortly discuss the results in terms of improving teachers´ and students' understanding of how motivational attitudes are associated with learning outcomes and through them guide students' later educational and exam choices.

KEYWORDS: ATTITUDES, ASSESSMENT OF LEARNING OUTCOMES, HISTORY AND SOCIAL STUDIES, SECONDARY EDUCATION

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Introduction

The role of motivation in learning is a salient question in educational research. It also plays a prominent role in international comparative studies such as PISA (Programme of International Student Assessment), TIMSS and PIRLS (Trends in Mathematics and Science Study and Progress in International Reading Literacy Study, respectively). All explore students' subject-related attitudes and general motivation concurrently with knowledge and skills. Within social studies, ICCS 2016 (International Civic and Citizenship Education Study) and its predecessors ICCS 2009, CIVED (Civic Education Survey) 1999 and Six Subject Survey of 1971, provide international data of students' civic knowledge, related attitudes and engagement (cf. Ainley, Schultz, & Friedman, 2013). The attitudes measured in these studies differ, however, due to differences in the goals of the studies and in the relation of the measured cognitive component to curricular content. For example, in the ICCS 2016 framework, attitudes were conceptualized as judgments or evaluations regarding ideas, persons, objects, events, situations, and/or relationships. These were investigated in relation to four content domains: a) civic society and systems, b) civic principles, c) civic participation, and d) civic identities. (Schulz**,** Ainley**,** Fraillon**,** Losito, & Agrusti, 2016, pp. 24–33). Nonetheless, a central component in all these international studies is students' attitude toward and interest and self-concept in the subject or literacy in focus. However, it is to be noted that in the ICCS-studies, the focus is on students' attitudes regarding active citizenship, not on how motivational attitudes relate to curricular knowledge and skills in social studies. In these respects, the goal of our research differs from that of the ICCS studies.

The cross-sectional nature of the international studies does not allow causal conclusions regarding the relations between students' attainment and attitudes, however. A shared understanding of the intertwined relation between the two relies on evidence from other, more restricted longitudinal studies, often addressing language arts or mathematics. Reflecting this bias, there is little research in either history or social studies on the relations between students' subject-specific attitudes, knowledge and further study choices besides the cross-sectional ICCS (cf. Crampton & Hall, 2017; Van der Beek, Van der Ven, Kroesbergen, & Leseman, 2017).

In the present article, we address this shortage with a study based on linked secondary data from two sources and time-points. In the created longitudinal set-up, we will first look at the role of Finnish students' history and social studies-related attitudes and school achievement in explaining their attainment in a national test at the end of lower secondary education. After that, we will look at the impact of these on students' choice of and success in the respective exam(s) in the matriculation examination at the end of upper secondary education.

Prior Nordic research on motivation in social studies

The role of motivation in secondary students' attainment in history and social studies has been of interest also in the Nordic context. Much of this research, however, comprises relatively small-scale qualitative studies. In Børhaug's and Borgund's study (2018), students found social studies as a subject motivating because it offers possibilities for self-regulated learning and room for subjective emotional engagement, and its content concerns students directly and evoke personal emotions.

Another strand of Nordic research in the field has centered on students' political attitudes and their relationship to civic education in school (see Ekman & Pilo 2012; Olson, 2012). This approach is often similar to the ICCS-surveys where students' political attitudes are measured as a part of active citizenship skills. In his study, Sandal (2013) emphasizes that attitudes are taught and researched as a part of political education and democratic content in Sweden as well as in the other Nordic countries.

A Finnish large-scale assessment, the data of which is used also in the present study, showed that students' motivational attitudes towards history and/or social studies were associated with their attainment in the respective subject (Ouakrim-Soivio & Kuusela, 2012). In Norway, the survey of Mathé and Elstad (2018) with 264 students showed a strong positive relation between students' self-reported enjoyment of social studies lessons and their perception of the subject's contribution to citizenship preparation. The students who were able to work with and discuss issues that were perceived as relevant to them and who experienced a classroom climate that allowed for such discussions also saw the value of the subject in helping them making sense of these issues and in preparing them to participate.

With the longitudinal set-up of the present study, we aim at providing new knowledge of the relative roles of students' motivational beliefs, attitudes and prior knowledge in predicting their long-term commitment to and success in history and social studies as the two subjects most closely linked to their future as active citizens.

History and social studies in Finnish secondary education

Finnish secondary education comprises the compulsory lower secondary grades 7–9 and non-compulsory upper secondary education, divided into academically oriented upper secondary schools and vocational education and training (see Karhu, 2018; Ouakrim-Soivio & Kupiainen, 2019). Attendance in upper secondary education is 97 per cent, a little over half of whom study in the academic track. Transit from basic to upper secondary education is based on individual choice and school achievement (Kupiainen & Ouakrim-Soivio, in press).

History and social studies in the lower secondary syllabus

In Finland, the general and subject-specific goals for teaching and learning are given in the National Core Curriculum (later NCC), reformed approximately every ten years. Until the curriculum reforms of 2003 and 2004 for upper secondary and comprehensive school, respectively, history and social studies were a united dual subject. In history,

the formal separation of the subjects redirected teaching from a substantive knowledge and collective memory approach toward a more disciplinary approach. In social studies, the 2003 and 2004 curriculum-reforms caused no such change in teaching orientation as it did in history. (Löfström, Virta, & van den Berg, 2010; Rantala & Ouakrim-Soivio, 2020).

In the present study, all references are made to the 2004 NCC of basic education and the 2003 NCC of general upper secondary education as the documents in force during the 2011 national assessment and the matriculation examination tasks of 2014 and 2015, respectively. The new national curricula were published in 2014 for basic education and in 2015 for general upper secondary education, even if the latter was further renewed in 2019 to conform to the new law on general upper secondary education of 2018.

In history, the 2004 core curriculum for grades 7–9, in force at the time of the present study, emphasized disciplinary thinking, meaning the second-order concepts of cause, change, significance, evidence, and empathy while combining substantive and procedural knowledge for reasoned argumentation in history (see Rantala, 2012). The substantive historical knowledge was defined in terms of ten content area descriptions such as 'The dawn of the modern era' and 'Nationalism and life in the 19th century'. In social studies, the goal was to provide students with basic knowledge and skills in the structure and operation of the society, and of citizens' opportunities to exert influence. The seven content areas centered on Finnish society and economic life and the European Union. History was taught at grades 7 and 8 for two 45-minute lessons a week and social studies in grade 9 for three lessons, most often by the same teacher.

History and social studies in the upper secondary syllabus

Unlike the year-based comprehensive school, Finnish upper secondary education follows a course-based curriculum. The syllabi of the different subjects are divided into mandatory and specialization courses, comprising 38 lessons (à 45 minutes) across five periods during the year (see Kupiainen, Marjanen & Hautamäki, 2016). In the core curriculum of 2003, followed by the students of the present study, history comprised four mandatory and two specialization courses, and social studies two mandatory and two specialization courses. In all subjects, the exam of the matriculation examination is based on these two types of courses. In history, the mandatory courses were 'Man, the environment and culture,' 'European man,' 'International relations,' and 'Turning-points in Finnish History,' and the specialization courses 'Finland from prehistoric times to autonomy' and 'Meeting of cultures.' In social studies, the mandatory courses were 'Politics and society' and 'Economics', and the specialization courses 'Citizens and law' and 'Europeanism and the European Union.' Despite the competence-oriented curriculum, particularly in history, teachers often focus their teaching on substantive knowledge rather than on disciplinary thinking (Gullberg, 2010; Rantala, Manninen, & van den Berg, 2016).

The national assessment of learning outcomes in history and social studies in 2011

There is no common-to-all testing in the comprehensive school but monitoring of learning outcomes is realized through nationally representative sample-based assessments at grade nine. These are implemented every three years in the language of instruction (Finnish or Swedish) and in mathematics, and approximately every five years in other subjects. The main objective of the assessments is to follow up on and guarantee the equality of education in terms of geographical region, gender, language, and social background (Jakku-Sihvonen, 2013). Our study builds on the data of the national assessment of history and social studies (from here on referred to as history and social studies test), implemented in spring 2011 (for the official report of the results see Ouakrim-Soivio & Kuusela, 2012).

Exams in history and social studies in the matriculation examination

The centrally governed and compiled matriculation examination is the only high stakes exam in Finnish pre-tertiary education (Kupiainen, Marjanen, & Ouakrim-Soivio, 2018). The examination marks students' exit from upper secondary education and provides qualification for entering university. Only the exam in the language of instruction is mandatory. In addition, students have to choose three exams from among mathematics, a foreign language, the other national language or one of the ten exams in natural or humanistic and social sciences.[1] Approximately 25 per cent of students choose the history and/or social studies exam in their matriculation examination.

The impact of motivational factors on learning outcomes

Much educational research explores the role of diverse affective factors such as academic self-concept (Harter, 1999; Marsh & Shavelson, 1985), action-control beliefs (Little, Oettinger, Stetsenko, & Baltes, 1995), motivation (Ryan & Deci, 2000), self-efficacy (Bandura, 1977), or self-regulation (Zimmerman, 2000) on school achievement. The long line of both single-construct and multi-constructs research has shown that positive motivational attitudes such as the ones referred-to above go hand in hand with better achievement. Research that comprises both cognitive and motivational predictors, however, point to the intertwined nature of the two along students' educational paths (e.g., Marsh, Trautwein, Lüdke, Köller, & Baumert, 2005). In longitudinal studies, motivational attitudes are often shown to act as both predictors and outcomes of achievement, as Marsh and Martin (2011) argue with their reciprocal effects model (REM). On the other hand, correlations among the motivational constructs are relatively high, meaning that the role of any one motivational construct

[1] Biology, geography, physics, chemistry, history, social studies, philosophy, psychology, religion/ethics, health education.

in explaining achievement will always be constrained – or aggravated – by the other constructs included in the current model.

Reflecting its origin in national assessment aiming at monitoring – but also helping promote – students' learning, the motivational constructs of the present study centre on factors easy for teachers to detect and foster in classroom interaction: interest, perceived usefulness of the subject, and academic self-concept. All have been shown to be related to higher attainment, even in longitudinal set-ups. In this continuum, our aim is to expand the view of their role in subjects where research of their interaction and especially their long-term impact on achievement is limited. In this, the results will add to Mathé's and Elstad's (2020) recent findings of the positive relations between Norwegian students' self-efficacy beliefs, citizenship-preparation perceptions, and self-reported effort in social studies.

In both PISA and the curricular TIMSS and PIRLS studies, the affective focus has been built primarily around the same three motivational dimensions used in the current study: interest (e.g., Ainely, 2006), usefulness (Grootenboer & Hemmings, 2007), and (perceived) own ability (e.g., Marsh & Shavelson, 1985; Marsh, Trautwein, Lüdke, Köller & Baumert, 2005). The results of the ICCS 2016 survey showed that Finnish students' knowledge in social studies was high and they set high value on democracy and equality. Yet, compared to their Nordic peers, Finnish students showed little tendency for active citizenship (Mehtäläinen, Niilo-Rämä, & Nissinen, 2017, pp. 50–52, 91). Girls performed better than boys, and as in many other Western countries, the gender difference had grown since ICCS 2009. Girls were more active in taking part in common activities in school than boys, whereas boys followed daily politics through social media more actively than girls did.

Research questions

This study explores the relations between students' attainment and subject-related motivational attitudes in a national assessment of history and social studies, their grade (mark) in the subjects at the end of grade 9 (Time 1), and their success in the respective exams in the matriculation examination three or four years later (Time 2). We aim to answer two research questions:

1. What are the internal relations of students' subject-related motivational attitudes, success in a national test, and grades (marks) in history and social studies at the end of grade nine and how are they related to students' choice of the respective exam in the matriculation examination?
2. To what extent do students' subject-specific motivational attitudes, success in a national test, and their grades (marks) in history/social studies at grade nine predict their success in the respective exam in the matriculation examination?

Data and Methods

Data

The data comprises 2569 upper secondary academic track students (44.0% boys). They represent 54.4 per cent of the original 4722 participants (49.8% boys) of the 2011 national assessment of history and social studies. The rest of the students (2513 or 45.6 %) continued their studies in the vocational track. Of the 2569 students, 396 (61.9% boys) chose into their matriculation examination the exam in history, 463 (53.6% boys) the exam in social studies and 152 students (68.4% boys) both exams. The other 1558 compiled their matriculation examination without either of the exams choosing, for example, exams in physics, chemistry, philosophy, psychology, religion or health education instead.

Our research follows the ethical guidelines for research set forth by the Finnish Advisory Board on Research Integrity (http://www.tenk.fi/en) and the University of Helsinki. The data were authorized for the study by the Finnish Educational Evaluation Centre (the 2011 grade 9 data) and the Finnish Matriculation Examination Board (the 2015 and 2016 exam data). The two data were combined for the researchers of the present study so that the data used in the analyses was anonymous and individual students or their results were not recognizable.

Measurements

Time Point 1

The grade nine assessment of history and social studies was based on Mehren and Lehman's framework (1991) to measure students' mastery of substantive and procedural knowledge. The history test covered four dimensions: *Use and interpretation of historical sources, Perception of historical time, Historical empathy, Perception of causality and other history-related phenomena.* The test comprised 19 multiple-choice tasks (80 items) measuring substantive knowledge (e.g., "Choose from the list the eight European countries which have secured independence after World War I"). Eight tasks called for an open answer requiring substantive and procedural knowledge (e.g., based on a newspaper interview of a former Second World War prisoner of war students had to deliberate on why American soldiers treated prisoners of war cruelly and why those guilty of the deaths of the prisoners were not held responsible). (Cf. Rantala, 2012.)

The social studies test covered three dimensions: *Critical reading of media, Argumentation in social issues, Social and economic decision-making.* The test comprised 56 multiple-choice tasks (e.g., "Which features in the following list are considered characteristic for a welfare state?"). Twelve tasks called for an open answer (e.g., "Explain why the results of the Gallup poll by the Finnish Broadcasting Company do not necessarily reveal the absolute truth.") (cf. Ouakrim-Soivio & Kuusela, 2012; Ouakrim-Soivio, 2013, p. 151).

Students' subject-related motivational attitudes were measured with a questionnaire comprising three dimensions, each with a five-item subject-specific scale: *Interest* (e.g., History/social studies is one of my favorite subjects), *Usefulness* (e.g., Knowledge of history/social studies will be important for me in my future studies), and *Academic self-concept* (e.g., I can manage even difficult tasks in history/social studies).

The test time was 90 minutes. The assessment was implemented during regular school hours, supervised, and scored by the teacher according to written guidelines. The validity of teacher scoring was secured by external censors nominated by the Finnish National Board of Education, re-assessing 15 per cent of the student responses.

Students' grades in history and social studies were obtained from the National Joint Application Register for upper secondary education choice.

Time point 2

In the matriculation examination, both the history and social studies exams comprised ten tasks of diverse scope and difficulty, of which the examinee was to choose six. Many tasks offered extra material supplied in the exam booklet. Following an adopted Krathwohl-Anderson taxonomy, the tasks called for different levels of information processing, argumentation, and justification. In both subjects, the examinee was expected to put the provided information in a broader context, and to distinguish between facts and reasoned statements and opinions.

The tasks differed in the level of the cognitive process required, as can be seen from the two examples from the history exam in autumn 2013: Task 6: "How did Finnish wood industry develop from the late 19th century to the outbreak of the Second World War, and what were its effects on Finnish society?" Task 9: "The following three excerpts [from politically diverse newspapers] describe the Peasants March in Finland in July 1930. [by the radical nationalist and anti-communist political Lapua Movement] a) Compare the views of the participants and their objectives as presented in the three excerpts. b) Discuss the elements that threatened democracy in Finland in the 1920s and 1930s."

Students' matriculation grades are from exam sessions between autumn 2013 and spring 2015, covering the nominal three to four years of upper secondary studies.

Statistical methods

To answer the research questions, we first performed descriptive statistical analyses to evaluate the reliability of the tests and the attitudinal scales, also looking for possible gender differences, known to be typical for Finnish basic school students. The analyses were performed with the IBM statistic package SPSS 24, with between-group differences estimated with ANOVA and presented using η^2 (eta square) as an indicator for effect size. According to Hattie 2009, 79) and Maher, Markey, & Eber-May, 2013, Table 2), these can be contrasted with the Cohen's *d* values as small effect (η^2 = 0.001–0.039), mid-size effect (η^2 = 0.060–0.110) and big effect (η^2 = 0.140–0.200). The study the relative role of the different factors in predicting first students' choice of the history/social studies exam in their matriculation examination (Research question 1)

and their success in that exam (Research question 2) we built two structural models (SEM), using, respectively, confirmatory factor analyses for both the attitudinal and the history/social studies test constructs. The modelling was performed using AMOS 24. To estimate model fit we used the CFI, TLI, and RAMSEA indices as recommended by Byrne (2010) and Schreiber, Nora, Stage, Barlow, & King (2006): good fit: CFI > 0.950 and RMSEA < .060, acceptable fit CFI > .900 and RMSEA < .080. The absolute fit index χ^2, however, was expected to be significant due to the large sample size and the number of variables in the models (e.g., Teo, Tsai, & Yang, 2013, 14), and will thus not be reported.

Results

The national assessment of history/social studies

The reliabilities of the history and social studies tests were satisfactory (history: α = .898 for the whole test, α = .888 for the multiple-choice items and α = .764 for the open answer items; social studies: α = .889 for the whole test, α = .868 for the multiple-choice items and α = .697 for the open answer items). There was a slight but statistically significant gender difference among the academic track students in both tests with boys outperforming girls in history ($p < .01$, $\eta^2 = .003$) and girls outperforming boys in social studies ($p < .001$, $\eta^2 = .006$).

Who chooses the history/social studies exam to the matriculation examination?

Choosing a given exam in one's matriculation examination requires the studying of the mandatory and the non-mandatory courses. To study the relationship of students' exam choice to their earlier attainment and motivational attitudes, we divided the students by forming four groups: a) students who sat for the social studies exam, b) students who sat for the history exam, c) students who sat for both exams and d) students who sat for neither exam.

As can be seen from Table 1, students who later included the history and/or social studies exam(s) in their matriculation examination had outperformed other students in the national test and had higher grades at school in the two subjects at the end of grade nine. The difference was more prominent in history than in social studies, and students who sat for both exams had performed better in the national test(s) and attained better grades. Moreover, the difference was specific for the two subjects as there were no differences between the groups in Finnish/Swedish (language of instruction) or in mathematics, not even in pairwise comparisons.

TABLE 1

Students' grades in the basic school final (grade nine) report card (scale 4 = fail…10 = excellent), their attainment in history and social studies tests in the national assessment (percentage of correct answers) and their subject-related motivational attitudes (scale in the positive worded items 1 = I totally disagree to 5 = I totally agree) according to students' choice of the history / social studies exam(s) in their matriculation examination (columns). Note: The number of cases in the different tables varies somewhat according to differences in the respective data.

	No exam n = 1864		**Only history n = 244**		**Only social studies n = 311**		**History & social studies n = 152**		**Difference between the four groups**	
Final grade (9.)	Mean	Std.D.	Mean	Std.D.	Mean	Std.D.	Mean	Std.D.	**p**	**η^2**
History	8,30	1,04	8,64	0,96	8,38	0,97	8,85	0,97	<,001	0,024
Social studies	8,30	0,98	8,35	0,98	8,47	0,89	8,71	0,86	<,001	0,012
National test										
History test	54 %	0,15	59 %	0,15	57 %	0,16	63 %	0,15	<,001	0,029
Social studies test	72 %	0,13	73 %	0,13	74 %	0,12	76 %	0,12	<,001	0,006
Attitudes History										
Interest	3,18	1,02	3,85	0,92	3,38	0,96	4,06	0,82	<,001	0,069
Usefulness	3,17	0,77	3,46	0,76	3,29	0,78	3,66	0,79	<,001	0,031
Academic self-concept	3,44	0,82	3,97	0,63	3,60	0,77	4,12	0,58	<,001	0,066
Attitudes Social studies										
Interest	3,21	0,93	3,20	1,00	3,66	0,83	3,79	0,93	<,001	0,040
Usefulness	4,22	0,69	4,20	0,66	4,43	0,67	4,58	0,54	<,001	0,023
Academic self-concept	3,40	0,77	3,41	0,76	3,70	0,70	3,88	0,65	<,001	0,034
Share of boys	39.8 %		57.8 %		46.3 %		68.4 %			

Students' attitudes toward history and social studies turned out to be a better predictor for their studying the subject toward the matriculation exam than either their success in the national test or their grade in the final report card. This was especially true for history but noticeable also in social studies. The difference was especially strong in students' interest in the subject and in their self-perceived ability. Apparently, subject-specific interest developed already during lower secondary education is a key factor guiding students' study-choices through upper secondary education.

Within the history test, the difference between the groups was larger in the tasks related to *perception of historical time* and *use and interpretation of historical sources* ($p < .001$, $\eta^2 = .031/.019$). In the social studies test, differences between the groups in the subtests were small even if statistically significant ($p < .001$, $\eta^2 = .006–.008$).

As expected, students' performance in the test correlated with their grades ($r = .464$). Both also correlated with students' subject-related motivational attitudes ($r = .265–.352$). The correlations were slightly higher for girls than for boys and for students who

sat for both exams – or sat for neither, which means students from both ends of the ability spectrum.

Predicting students' success in the matriculation examination

Before exploring the relative role of the different predictors for students' success in the two exams, the results of the exams for the groups of students introduced in Table 1 are presented in Table 2.

TABLE 2

Students' grades in the history and social studies exams in the matriculation examination (a discontinuous scale of 0 = fail and 2 = adequate – 7 = excellent) according to their choice of the social studies and history exam(s) in the matriculation examination (columns).

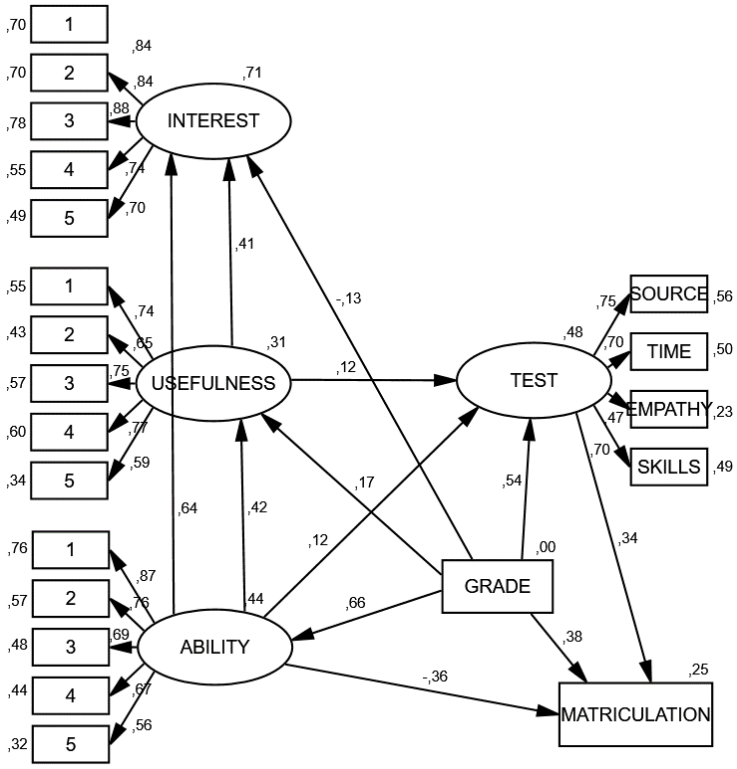
	Only history n = 245		**Only social studies n = 309**		**History & social studies n = 153**		**Difference (one exam vs. both exams)**	
Matriculation exam	Mean	Std.D.	Mean	Std.D.	Mean	Std.D.	**p**	**η^2**
History exam	3.87	1.540			4.41	1.726	<.001	0.027
Social studies exam			4.21	1.471	4.47	1.509	ns	

As can be seen from Table 2, the students who sat for both the history and the social studies exam succeeded in the history exam better than the students sitting only for that exam, while the difference was not statistically significant in social studies. When comparing the result to those presented in Table 1, it has to be kept in mind that the group-level difference (ANOVA) shown in Table 1 was mainly due to students who sat for neither of the exams, and are hence missing from Table 2. Girls outperformed boys in both exams (history $\eta^2 = .036$, social studies $\eta^2 = .031$, both $p < .001$).

To study the relative role of the different factors in predicting students' success in the exams, we grouped together all history and all social studies examinees, respectively. Accordingly, two structural equation models (SEM) were constructed; one for history (Model 1) and one for social studies (Model 2). The fit indices for both models were good (history: CFI = .947, TLI = .931, RMSEA = .021; social studies: CFI = .943, TLI = .928, RMSEA = .021).

Model 1 explained 48 per cent of the variation in students' attainment in the history test and 25 per cent of the variation in the matriculation exam. Confirming the hypotheses set based on earlier research, students' earlier competence as indicated by their grade in history was the strongest predictor for their success in the national test ($\beta = .54$). Students' subject-related attitudes were internally related ($\beta = .41–.64$) but had

only a slight impact on students' performance in the national test (β = .12, p < .001 for usefulness and ability with no statistically significant direct impact for interest). Students' attitudes were related to their grade in history, with the relation between grade and perceived ability the strongest in the model (β = .66), implying the key role teacher feedback plays in the formation of students' belief of their own ability (cf. Marsh et al., 2005). The weak negative relation between students' grade and interest might tell of the same phenomenon.



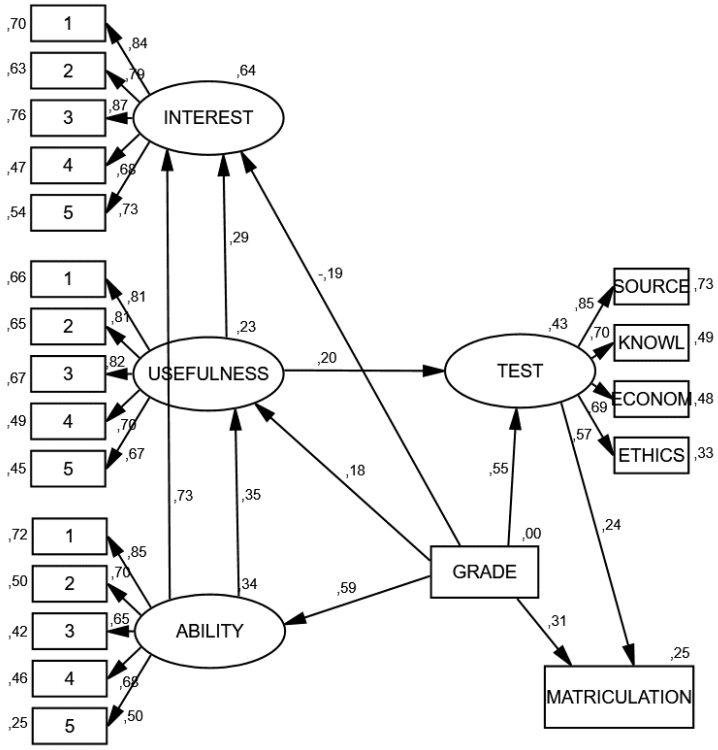
MODEL 1.

Predicting students' success in the history exam in the matriculation examination (MATRICULATION) by their 9th grade subject-related attitudes (INTEREST, USEFULNESS, ABILITY), their attainment in the history test (TEST), and their grade in history (GRADE).

As expected, students' grade in history was the strongest predictor for their success in the matriculation exam even if also their achievement in the national test had an almost equally strong independent impact on their performance (β = .38 and β = .34, respectively). The direct impact of students' self-perceived ability at grade nine was (surprisingly) negative (β = -.36), while the other attitudinal factors carried no direct effect across the years.

Social studies was in the students' syllabus when the national test was administered. Nevertheless, as the students had had their interim report before the test, we have applied for social studies the same model (directions of impact) as for history. Model 2 explained 43 per cent of the variation in students' attainment in the social studies test

and 25 per cent of the variation in the matriculation exam. Like in history, students' grade in social studies as an indicator of earlier achievement was the strongest predictor for their attainment in the national test (β = .55). Students' social studies-related attitudes were internally related (β = .29–.72) but only perceived usefulness had a direct impact on students' performance in the national test (β = .20, p < .001). As in history, usefulness might have acted as a mediator for students' earlier success and their academic self-concept in the subject.



MODEL 2.

Predicting students' success in the social studies exam in the matriculation examination (MATRICULATION) by their 9th grade subject-related attitudes (INTEREST, USEFULNESS, ABILITY), their attainment in social studies test (TEST), and their grade in social studies in the final basic school report card (GRADE).

None of the attitudinal factors had a direct impact on students' success in the social studies matriculation exam while students' school grade was a clearly stronger predictor of their success in the exam than their attainment in the national test.

When comparing Model 2 to Model 1, the differences in the relative weights of the explanatory factors are clear. The differences might reflect the different timing of the national test in relation to the lower secondary syllabus in history and social studies or social studies' smaller number of courses in upper secondary education.

Discussion

The study set up to look at the impact of students' achievement in and attitudes towards history and social studies on their attainment in a national test at the end of lower secondary education, and on their choosing of the respective exam in their matriculation examination at the end of upper secondary education. To do this, we combined data from a national sample-based assessment of history and social studies in spring 2011 with register data on students' matriculation examination results. The course-based structure of Finnish upper secondary education allows students a choice of the number of courses in the different subjects, meaning that the inclusion of a non-mandatory exam in the matriculation examination can be interpreted to reflect students' motivational attitudes – interest, perceived usefulness and own ability – toward the subject.

We first analyzed the internal relations of students' motivational attitudes, test performance and school grades in history and social studies at the end of lower secondary education (Time point 1) with data from the national test and from the National Joint Application Register. After that, we built two models to predict students' attainment in the respective exams in the matriculation examination (Time point 2).

The results showed that students grouped according to their choice of the history and/or social studies exam(s) in the matriculation examination (neither exam, either exam, both exams) differed significantly from each other already three years earlier in their subject-related attitudes, attainment in the national test, and school grades in the two subjects. The differences were more pronounced in history than in social studies and larger in students' motivational attitudes than in their attainment in the national test or school grades. In both subjects, the differences were larger in students' interest or liking of the subject and their belief in own ability than in the perception of the subject's extrinsic or intrinsic usefulness. The result is parallel with that of Mathé and Elstad (2018), who found a positive relation between students' reported enjoyment of social studies lessons and their perceptions of citizenship preparation. Apparently, students' enjoyment of social studies lessons has the potential to affect their motivation and persistence to study social studies also in Norway.

As expected, students' subject-related attitudes were related to their success in the national test and to their grades in the subject. In history, the differences were largest in tasks related to the *understanding of historical time* and *use and interpretation of historical sources.* In social studies, tasks calling for *critical interpretation of information, statistics and graphs* differentiated the groups best.

Students who included both history and social studies in their matriculation examination performed on average better already in the national test than the students who only chose one of them did, and they achieved higher grades in both subjects. The result was expected, as it can be understood to reflect special interest in the two subjects. Likewise, reflecting the factors common to all achievement, students who perform well in one subject generally perform well in others too, as has been shown in numerous earlier studies (e.g., Kupiainen, 2016, 2019; Kuusela & Ouakrim-Soivio, 2013). The result was also expected as many of the students sitting for both the exams strive for a

place in the Faculty of Law, one of the university programs with strictest selection. For many among them, the goal might often guide their schoolwork already in the lower secondary grades. However, in a country where girls tend to outperform boys at all education levels and in most subjects, of interest is that boys who were overrepresented among students sitting for the history exam were even more so in the smaller group sitting for both history and social studies exams. This might reflect Law as a top choice among high-achieving boys not aiming into the STEM (science, technology, engineering, and mathematics) fields (cf. Kupiainen et al., 2018, pp. 165–167).

To answer the second research question regarding the relative role of students' prior attainment and subject-specific motivational attitudes in predicting their success in the history or social studies exam in the matriculation examination, separate structural equation models were built for each subject. The fit of both models was good, but the relative weight of the different factors differed somewhat for the two subjects. This might reflect the differing course-loads of the subjects in upper secondary education or the different timing of the national test in relation to the studying of the subjects in lower secondary, concurrent for social studies but a year's delay for history.

Whereas students' motivational attitudes were the strongest predictor for their exam choice (history, social studies, or both), their attainment in the national assessment and in the matriculation examination were best predicted by their earlier achievement as indicated by their grade(s) and the national test. In history, students' perception of their own ability at the end of lower secondary education had a strong negative impact on their exam result three year later, a result we find difficult to interpret.

The respective models explained 48 per cent of students' attainment in the national test in history and 43 per cent of attainment in social studies. There was no such difference in the matriculation exams with both models explaining 25 per cent of the variance of students' success in them. The similarity of results for the two subjects might be partially due to their intertwined nature in students' minds as in the Finnish curriculum, the two subjects follow each other in lower secondary education from grades 7–8 to grade 9, taught by the same teacher.

The separation of history and social studies into two subjects in the beginning of 2000 was difficult for many teachers. In many schools, the emphasis continued to be primarily on content knowledge. (Rantala & Ouakrim-Soivio, 2020.) Hence, many students might not be well prepared to answer the more demanding historical competence-oriented tasks of the matriculation examination (Löfström, Virta, & van den Berg, 2010). Though, Löfström and Kaarninen (2013) found that history tasks offering additional source material tempted students as they apparently saw the material to support the formulation of their answers. Later, Löfström (2016) found boys to favor tasks with statistics, pictures or maps as source material, whereas girls tended to favor tasks with additional text material. As the 2003 and 2004 curriculum reforms caused no such change in teaching orientation as it did in history. The subject still comprises a diverse set of sub-domains in social sciences, forming a heterogeneous many-disciplinary syllabus. Löfström, Virta and van den Berg (2010) also argue that the social studies syllabi for lower and upper secondary education emphasis substantive knowledge rather than critical literacy.

Moreover, as in most schools the same teachers with a major in history and minor in social studies teaches both subjects, their competence within the different subfields of social sciences can be rather shallow. Whether this difference in the teaching orientation of the two subjects is reflected in the tasks of the 2011 national test or the matriculation examination is a topic that falls outside of the current study.

As with all research based on secondary data, there are limitations rising from the data. As the study builds on two official register-type data, we lack information on students' actual course taking in the two subjects in upper secondary education. Later research has shown, however, that the correlation between students' course taking and grades and their success in the matriculation examination is high in all subjects (cf. Kupiainen & Ouakrim-Soivio, 2019). The relatively low explained variance of the exam grade (25% in both subjects), instead, probably reflects the lack of information on students' success in the other exams as these, too, are highly correlated (Kupiainen et al., 2018). Accordingly, the relatively strong impact of students' earlier subject-specific attitudes and achievement in explaining the grade can be regarded a valuable addition to earlier research. As there is little longitudinal research on the interplay of students' subject-specific attainment and motivational attitudes across secondary education outside of mathematics, the present study offers a timely opening into the issue in the less researched subjects of history and social studies.

We also believe that for curricula designers' and didactic experts' it is important to know whether success and positive attitudes towards history and / or social study in the end of basic school reflects to the next level of education.

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