JSSE

Journal of Social Science Education

2023, Vol. 22(4)

Edited by:

Maria Fernandes-Jesus, Andrea Szukala & Isabel Menezes

Article

Is the coronavirus created by the government to control us? Critical thinking and conspiracy beliefs among Norwegian youth in upper secondary schools

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Keywords: conspiracy theories, conspiracy beliefs, critical thinking, social studies didactics, youth

Highlights:

- Research on belief in conspiracy theories among youth is an unexplored field in the Nordic context.
- Research also indicates a negative correlation between critical thinking skills and conspiracy beliefs.
- The results show that more than 50% of the students report having learned 'much' or 'very much' about critical thinking, but very little about conspiracy theories.
- The results show that the students believe in conspiracy theories only to a minor extent, but there are significant differences in the degree of conspiracy beliefs.

Purpose:

The aim of this article is to contribute new knowledge about critical thinking in social studies and conspiracy beliefs in Norwegian schools. We explore Norwegian upper secondary school students' self-reported learning about critical thinking in social studies and their attitudes toward conspiracy theories.

Design/methodology/approach: The survey focuses on what the students have learned about critical thinking and conspiracy theories in social studies.

Findings: The results show that the students believe in conspiracy theories only to a minor extent. We found no significant association between how much they think they have learned about critical thinking, and conspiracy beliefs. However, there are significant differences in the degree of conspiracy beliefs and several of the background variables.

Research limitations/implications: The findings are discussed in terms of the increasing focus on critical thinking as part of the social science subjects in school. We suggest that conspiracy theories should be taught both with an empathic strategy and with a clear focus on critical thinking skills, rather than through a confrontational approach.

1 Introduction

In a world characterized by complexity, intricate interconnections, and pervasive ambiguity, where one crisis seems to replace another and an abundance of information is readily accessible, the imperative to comprehend ongoing events and ascertain the veracity of information becomes paramount. In the struggle for explanations, facts are often pitted against fiction, science against rumors and pseudoscience, and it can be challenging both for youths and adults to maneuver through this information landscape. In the Norwegian Media Authority's investigation into children and the media from 2020, it emerges that two out of three Norwegian youths aged 13–18 have seen or heard a piece of news they suspected was fake in the past year (Media Authority, 2020). The survey also shows that most people come across this 'news' on social media, and that a full 60% of young people did nothing to investigate and assess whether the news was true or not (Ibid., p. 6). This is a digital space of opportunity that extremist, understand how to exploit to spread undocumented claims, propaganda, and conspiracy theories (Sutton & Douglas, 2020; Haanshuus, 2018). As part of this digitalization of extremism, fake news and conspiracy theories are often used by violent and extreme movements on the far right and that they are important ingredients in radicalization processes as in the consolidation of extremist groups (Døving & Emberland, 2018).Since the turn of the millennium, several international studies have emphasized critical, analytical and perspective-rich thinking as necessary 'future skills' (Pellegrino & Hilton, 2012; Selwyn, 2014). The idea is that critical thinking can act as a cognitive 'bullshit detector' – a tool to enable us to detect fake news, counter simplifications and unsubstantiated claims, and pick apart conspiracy theories (Pennycook & Rand, 2020).

With the development of new curricula in Norway through Kunnskapsløftet [knowledge promotion reform] 2006 and 2020, critical thinking has also gained an increasingly prominent place in schools in general and in social studies in particular. In Kunnskapsløftet 2020 (LK20), critical thinking is included both as a skill, a competence and a key value in the social science and social studies curricula (Kunnskapsløftet, 2019a, 2019b). The American philosopher Robert Ennis has developed a widely used definition of critical thinking in which the term is understood as 'reasonable reflective thinking focused on deciding what to believe or do' (1989, p. 4; 1964, 1993, 2016, 2018). Critical thinking thus involves making rational and reflective analyses of the information available before drawing conclusions.

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Suggested citation:
Skjølberg, K.H.W., Trysnes, I., Frølich Furrebø, E. (2023). Is the Coronavirus Created by the Government to Control us? Critical Thinking and Conspiracy Beliefs among Norwegian Youth in Upper Secondary Schools. In: *Journal of Social Science Education 22(4).*
https://doi.org/10.11576/jsse-6295

Declaration of conflicts of interests: No potential conflict of interest was reported by the authors.

Ennis has also been engaged in teaching about, in and for critical thinking, as well as deducing assessment criteria for measuring critical thinking (1985; 1993; 2018). In that context he conceptualizes critical thinking both as some fundamental attitudes and dispositions (*dispositions*) and as more concrete cognitive skills (*abilities*) (1985, p. 46; 2018, p. 167). In 1989, the Delphi panel came up with two close dimensions of critical thinking: *cognitive skills* and *affective dispositions* (Facione, 1989). Cognitive skills (abilities and skills) include, among other aspects, the ability to think and argue analytically, skills in source criticism, ability to infer and a scientific way of thinking, self-regulated judgement, metacognition as well as strategic and tactical thinking (Ennis, 1985; Ennis, 2018; Facione, 1989). Paul and Elder (2021) also focus on cognitive skills, called *thinking skills,* and define critical thinking as 'the art of thinking about thinking while thinking to make thinking better. It involves three interwoven phases: It analyzes thinking, it evaluates thinking, and it improves thinking' (p. xxi). Bailin et al. (2010, p. 298) conceptualize critical thinking as a complex practice in which the combination of cognitive skills, attitudes and dispositions form the basis for the exercise of good judgement.

When it comes to critical thinking as attitudes and dispositions, Ennis (1985, 1993) associates this, among other things, to an inherent ability to seek true information, stay on the topic, argue objectively, ask critical questions, exercise good judgement and be able to change one's position, as well as to be open to alternative voices and perspectives. The Dutch educational researchers Geert ten Dam and Monique Volman (2004) highlight several of the same attitudes, values and characteristics, and understand critical thinking as a key democratic citizenship skill for participation in a modern society.

In social studies, critical thinking is connected explicitly to such democratic competences and attitudes through a focus on social criticism and diversity of perspectives (Ferrer et al., 2019, pp. 21–22). Børhaug and Christophersen (2012) discuss how the social sciences operates in a tradition between legitimization and problematization – caught between accommodation and criticism, students must develop into democratically participatory citizens while at the same time they must learn to think analytically and pose critical questions of the status quo. The Danish social science educator Torben S. Christensen (2015) claims that this dual role is central to the subject, but that it can be difficult to understand and practice. Børhaug also emphasizes that critical thinking is an important democratic attitude and skill 'in that it enables us to investigate for ourselves how something is instead of relying on the explanations of authorities' (2005, p. 176). In the Nordic context, several studies in social studies education have been performed in recent years with a focus on critical thinking (Børhaug, 2014; Børhaug & Christophersen, 2012; Ledman, 2019; Tväråna, 2019; Trysnes & Skjølberg, 2022). In 2019, Norwegian social studies educators Marlen Ferrer and Annika Wetlesen published the anthology *Kritisk tenkning i samfunnsfag* [Critical Thinking in Social Studies] and in 2020 the Swedish book *Kritisk tänkande och källkritik – undervisning i samhällskunskap* [Critical Thinking and Source Criticism – Teaching in Social Studies] (Skolforskningsinstitutet, 2020). In 2019

there was also a comparative study of how critical thinking is operationalized in the five Nordic countries' social studies curricula (Ledman, 2019). Here, Ledman uses a four-part typology to describe different forms of critical thinking in the respective curricula. The typology distinguishes between *general criticality* (cognitive skills), *disciplinary criticality* (critical thinking rooted in the subject's epistemology), *moral criticality* (attitudes and judgement) and *ideological criticality* (norm- and power-critical perspectives) (Ibid., pp. 152–153). She found, among other things, that the various curricula '[generate] a multifaceted picture of criticality in the school subject civics in the Nordic countries', but that overall, there is more focus on *general* and *disciplinary criticality* and less focus on *morality* and *ideological criticality* in the Nordic curricula (p. 162).

In a study of Norwegian social studies curricula from Reform94 to LK20, Trysnes and Skjølberg (2022) found a marked increase in the number of competence aims that focused on methodological and scientific skills such as research and critical analytical thinking. In this article, we understand critical thinking both as specific skills in critical analysis and the assessment of information, and as a learning objective, a value and an inherent attitude that entails asking critical questions and openly seeking multiple perspectives. Confronted with fake news, propaganda and conspiracy theories, critical thinking, both as a skill and as an attitude, can give us the tools we need to evaluate for ourselves what we believe in instead of blindly trusting the explanations of authorities. In this context, an important question is then which 'authorities' ought to be trusted? Taken to their logical end, such critical questions can also lead to extreme relativism and mistrust.

Belief in conspiracy theories can be seen as an expression of what Renard (2015) describes as 'the general loss of trust' (p. 72). Douglas et al. (2017) defines conspiracy theories as 'attempts to explain the ultimate causes of significant social and political events and circumstances with claims of secret plots by two or more powerful actors' (p. 4). Zembylas (2021) builds on the same definition but adds 'who aim to deprive the people of liberty, prosperity, health, power, or knowledge' (p. 2). Napolitano (2021) suggests a definition focusing on 'the belief in the existence of a conspiracy, where the existence of the conspiracy is taken to justify the dismissal of any seemingly disconfirming evidence that one could encounter under normal circumstances' (p. 88). Conspiracy theories provide the believers with intriguing 'catch-all explanations' of the world (Heins, 2007, p.796) and believers claim to be the 'true' critical thinkers (Harambam & Aupers, 2017). Conspiracy theories encompass a wide range of genres, and history has shown that some claims about conspiracies have been true, or at least partially true. One current example is the conspiracy claims related to the coronavirus, which still require further exploration. Such claims may also be interpreted as a challenging of doxa (Bourdieu, 1984), referring to knowledge of expertise that is taken for granted without participants questioning it.

There are few studies of the topic of conspiracy theories with young people as a target group (Dyrendal & Jolley, 2020), and it is a relatively new field of research in the Nordic context (Astapova et al., 2020). The topic can also be seen as controversial since it can arouse strong emotions and create discord in local communities and society (Kerr &

Huddleston, 2017). Dyrendal and Jolley (2020) also claim that many teachers find it difficult to teach about conspiracy theories.

With this article, we want to contribute new knowledge about critical thinking and conspiracy theories in social studies in Norwegian upper secondary schools. Based on a quantitative survey with Norwegian students in upper secondary schools (N=597), we investigate what the students report to have learned about critical thinking and conspiracy theories and to what extent they believe in various conspiracy claims. We also investigate whether there are any connections between conspiracy beliefs and various background factors. Furthermore, the topic is discussed in relation to perspectives on critical thinking and research in the field. The article ends with an outlook in which we discuss the implications of the findings for the teaching of social studies.

Based on previous research on conspiracy theories and critical thinking, we explore the following hypotheses:

- Hypothesis 1: Acceptance of one conspiracy theory will increase the likelihood of accepting others.
- Hypothesis 2: We expect to find the following relationships between various background factors and belief in conspiracy theories in our data material: the religious are more inclined to believe in conspiracy theories than the non-religious; girls are less likely to believe in conspiracy theories than boys; and the probability of believing in conspiracy theories decreases with increasing level of education (operationalized here with parents' level of education).
- Hypothesis 3: There is a negative correlation between students' training in critical thinking and any belief in conspiracies.
- Hypothesis 4: There is a negative relationship between high academic level and conspiracy beliefs.[1]

2 Research context

2.1 Research on students' critical thinking

'Reliable information is to civic health what proper sanitation and potable water are to public health.' – the quote is taken from a report prepared by researchers at the Stanford History Education Group (Breakstone et al., 2019, p. 4). Since 2016 the research group has conducted several large national surveys of American students' critical digital skills, and the results can be summed up in one word: *troubling (*Breakstone et al., 2019, p. 3; McGrew et al., 2017, p. 5). The surveys show that students trust digital information more and trust it less uncritically; that they do very little to assess whether the information is correct or not; that they are able to distinguish between news and advertising to only a minor degree; and that they assess the credibility and reliability of sources to a very minor degree (Breakstone et al., 2019; McGrew et al., 2017). In these American studies few differences emerge in critical skills between boys and girls, while variables such as place of residence,

mother's educational level and own academic level seem to have an impact on critical skills. Academically strong students, students from urban areas, as well as students whose mothers are reported to have higher educations, consistently score higher on critical skills. The OECD's PISA survey from 2018 tests students' skills in source criticism when it comes to assessing the credibility and reliability of texts. Research associated with the survey shows that the reading tasks that are intended to measure critical reading are the most difficult for the Norwegian students to solve (Jensen et al., 2019, p. 15; Weyergang & Frønes, 2020, p. 188), and the majority of Norwegian students lack strategies for critically assessing whether a text is trustworthy or not (Weyergang & Frønes, 2020, p. 182). The studies further conclude that Norwegian girls consistently perform better in critical reading than Norwegian boys, and that students with a higher socio-economic family background score better on source criticism skills than students with a lower socio-economic status (Ibid., pp. 184–185). In the survey, students are also asked to state what they have been given teaching on at school, and fewer than half of the students report that they have received training in using good search terms, reading search-result lists, assessing whether information is subjective or biased, and detecting email fraud (Jensen et al., 2019, p. 15). However, a full 82% state that they have been given training in determining whether information on the internet can be trusted or not (Ibid., p. 15). In parallel with the PISA surveys, the OECD also conducts the international teacher survey TALIS in which teachers and school managers answer questions about their everyday working life. Studies of the survey show that 51% of Norwegian teachers state that they consistently '...present tasks that require students to think critically', and only 65% of teachers express faith in their own ability to 'help students to think critically' (Throndsen et al., 2019, pp. 23–25).

2.2 Research on conspiracy theories and conspiracy beliefs

International research on conspiracy theories has so far been dominated by psychological studies and primarily aimed at the adult population. Several of these studies have focused on developing scales and techniques to measure belief in conspiracy theories (Douglas et al., 2019; Jolley et al., 2021; Wood, 2017), while others have sought to identify psychological factors, personalities and predispositions that increase the likelihood of believing in conspiracy theories (Douglas et al., 2019; Dyrendal et al., 2021; Galliford & Furnham, 2017). However, few studies had examined the *extent* of belief in conspiracy theories until the American political scientists J. Eric Oliver and Thomas J. Wood published a study in 2014 showing that half of the adult American population believed in at least one conspiracy theory. The study also showed that many people were inclined to believe that there were invisible forces in the world and that social development was driven by an inherent struggle between good and evil (2014, p. 959). The results further suggested that conspiracy theories not only have fertile ground among the 'politically naive', but that they had powers of attraction in all kinds of religious, ideological and political camps (p. 960). While these previous studies have primarily focused on the adult population, Galliford and Furnham (2017) find that younger people score higher on conspiracy beliefs than older

people. Jolley et al. (2021) also points out that adolescence is a particularly vulnerable time for accepting conspiracy theories and finds that young people between aged 14–18 score higher than both younger children and adults when it comes to belief in conspiracy theories (p. 511). The researchers indicate possible explanations for this, such as the fact that young people more often have problems regulating emotions and feel uncertainty and insecurity. This increases the risk of developing generalized and social anxiety, which in turn can increase the chance of believing in conspiracy theories (Ibid.). Galliford and Furnham (2017, p. 426) argue that especially through social media young people are more exposed to conspiracy theories than adults and are thus often more likely to believe in them. A Danish qualitative study also points out that belief in conspiracy theories among young people may represent a type of temporary 'flirtation' with the forbidden during adolescence (Stæhr, 2014, p. 114).

The American sociologist Ted Goertzel is considered a pioneer within psychological research on conspiracy theories. In 1992 he conducted a survey among 348 adult respondents in New Jersey about their relationship to ten different conspiracy theories. He finds, among other things, that belief in conspiracy theories correlates with the experience of alienation, mistrust and uncertainty (1994). Zembylas (2021) also asserts that conspiracy theories flourish when people experience the world as unsafe and uncertain (p. 3), and research shows a clear connection between social crises and belief in conspiracy theories (van Prooijen & Douglas, 2017). Conspiracy theories contradict official explanations and are generally founded on suspicion and distrust of political elites and authorities (Miller et al., 2016; Oliver & Wood, 2014). Goertzel describes conspiracy theories as monological closed belief systems (1994). In his study, he finds significant correlations between the various conspiracy theories, indicating that people who believe in one conspiracy theory are more inclined to believe in others (Ibid., p. 735). Several recent studies conclude the same (Døving & Emberland, 2018, p. 183; Enders & Smallpage, 2019; Galliford & Furnham, 2017, p. 426; Oliver & Wood, 2014, p. 961; Swami et al., 2010; Swami et al., 2011, p. 452). Goertzel (1994, p. 741) explains this by saying that monological conspiracy thinkers rarely look for evidence for their theories outside their belief system, but rather use the same simple, automatic explanations about a conspiracy to understand new phenomena. The evidence is thus sought in the conspiracy theory itself, and not in the actual phenomenon or matter in question – and conviction in the conspiracy is thus strengthened. Based on two studies of conspiracy beliefs in the UK and Austria, respectively, Swami et al. (2011) concludes the same – they find that 'the strongest predictor of whether or not an individual will ultimately accept a conspiracy theory is the presence of earlier conspiracist ideation' (p. 459).

Research on conspiracy theories also finds that demographic background factors such as religion, gender, and level of education correlate with the likelihood of believing in conspiracy theories. The Norwegian theologian Jone Salomonsen points out that conspiracy theories are based on a cosmological narrative about the battle of good against evil (Salomonsen, 2013, p. 81). In the same way that conspiracy theories can be understood

as monological closed belief systems, religions can also be viewed as unified belief systems linked together by foregone teachings and automatic explanations. In their study, Galliford and Furnham (2017) find a strong correlation between religious belief and belief in both political and medical conspiracy theories. They point out that one explanation for this could be that religious people 'may be less reliant on evidentiary processes' (Galliford & Furnham, 2017, p. 426). Several other studies also find a positive connection between conspiracy beliefs and religious affiliation (Darwin, Neave & Holmes, 2011; Oliver & Wood 2014).

Several studies also point to gender differences when it comes to conspiracy beliefs – however, the research here is inconclusive. While Goertzel (1994) found no significant correlations between gender and conspiracy belief, Oliver and Wood (2014) conclude that women and men are inclined to believe in different types of conspiracy theories. However, several find that women are generally more skeptical of conspiracy theories than men (Cassese et al., 2020; Galliford & Furnham, 2017, p. 424; Peters & Johannesen, 2020).

Regarding level of education, in his early study Goertzel found no significant correlations between level of education and belief in conspiracy theories (1994, p. 736). However, several recent studies find that adults with low-level educations are more likely to believe in conspiracy theories than adults with higher education (Douglas et al., 2019, p. 10; Douglas & Sutton, 2018, p. 260; Galliford & Furnham, 2017; Oliver & Wood, 2014, p. 961). In a large international study with respondents from 23 different countries, Imhoff et al. (2022) also find that belief in conspiracy theories decreases with level of education. Although the studies under review do not conclude any causal relationship between level of education and belief in conspiracy theories, the explanation is put forward that education can give people cognitive and emotional characteristics, knowledge and skills that enable them to resist fake news and conspiracy theories (Douglas et al., 2019, p. 10).

2.3 Research on connections between critical thinking and belief in conspiracy theories

We have found little Norwegian research that directly examines connections between critical thinking and belief in conspiracy theories, and particularly little research that examines this in the context of school and learning.[1] However, much of the conceptual basis for the growing focus on critical thinking in Norwegian schools is based on an expectation that training in critical thinking will contribute to developing democratic resilience and critical citizenship (Davies, 2016, 2015, 2014; Nordbruch & Sieckelinck, 2018). This implies the development of students' critical resistance to extreme attitudes and belief in fake news and conspiracy theories through 'inviting students (especially the marginalized or those who feel marginalized) to explore their ideas in inclusive environments (by sharing perspectives and problems and using their own "language")' (Nordbruch & Sieckelinck, 2018, p. 12).

[1] This claim is based on extended literature searches in the databases Oria, Ebsco Host/Eric and Google Scholar. It is also confirmed by Dyrendal and Jolleys (2020).

Internationally, however, there are several studies that look at the connection between critical thinking and conspiracy beliefs. In a research review, Gjoneska explores (2021) theorized the relationship between cognitive skills and the propensity to believe or disbelieve conspiracy theories. She develops a theoretical framework for the three types of cognitive skills that are relevant in this context – analytical thinking, critical thinking and scientific thinking. In a French study, Lantian et al. (2021) found significant negative correlation between objective ability in critical thinking and belief in conspiracy theories. At the same time, they found a lack of significant correlations between self-reported subjective ability in critical thinking and conspiracy beliefs. This division into objectively measurable and self-reported subjective ability in critical thinking is taken from the study by Harambam and Aupers (2017), who showed that people in a Dutch conspiracy environment reported that they saw themselves as 'critical free thinkers', i.e. subjectively reported an ability in critical thinking. Lantian et al. conclude that 'conspiracy believers have less developed critical thinking ability' (2021, p. 674). In a British study, Swami et al. (2014) finds the same. This study, which is based on four surveys with a relatively large sample (N=990), concludes that conspiracy beliefs are linked to a low degree of critical thinking and that it is further associated with more intuitive thinking. Several international studies find a similar negative correlation between the ability to think critically and belief in conspiracy theories and fake news (Bronstein et al., 2019; Georgiou et al., 2021; Pennycook et al., 2015; Pennycook & Rand, 2020; Swami & Barron, 2021).

2.4 Research on teaching about conspiracy theories

As already mentioned, little research has been done on young people and conspiracy beliefs in the Norwegian context. However, two Norwegian studies focus on teachers' experiences with this topic (Dahle & Helgesen, 2021; Dyrendal & Jolley, 2020). In their study, Dyrendal and Jolley discovered that teachers seldom directly address the topic of conspiracy theories themselves. Instead, the subject tends to be broached when students spontaneously express sympathy with conspiracy theories. A Danish action research study that explored the use of conspiracy theories in history teaching found that this form of teaching required very close follow-up both in terms of good, safe relationships as well as a continuous focus on critical thinking, source criticism and historical awareness (Peters & Johannesen, 2020, p. 16). Furthermore, they also found that boys in particular were fascinated by conspiracy theories, but that girls appeared to be more skeptical of these narratives (Ibid., p. 19).

Research points to different strategies for how conspiracy theories should be met. The most common strategy, according to Zembylas, is to treat conspiracy theories as *epistemic problems* (Zembylas, 2021 p. 7). Both Zembylas (Ibid.) and Harambam (2021) are critical to one such narrow falsification strategy: 'The ironic truth of debunking efforts may ultimately be that it is not so much the truthfulness of information that counts, but people's social distance to the producers and adjudicators of knowledge' (Harambam, 2021, p. 112). Furthermore, Harambam also believes that conspiracy theories often are very complex and that researchers who seek to falsify them lack the kind of 'all-

encompassing' expertise and knowledge that these theories embrace (Ibid., p. 108). Instead of a one-sided focus on exposing conspiracy theories as false, he proposes a *democratic strategy* that he describes as 'deliberative citizen knowledge platforms'. Harambam's point is to strengthen local democratic institutions so that 'ordinary' people can learn to participate in debates so that they both feel included and have the opportunities to participate and do something about what they perceive as problematic in society. Casam (2019) suggests that conspiracy theories be treated as a type of political propaganda. They represent a type of ideology and therefore need to be met with a *political strategy*. Cíbik and Hardoš (2020) also point out that conspiracy theories have an *ethical dimension* and can appear as 'ethically unreasonable'. Zembylas (2021) proposes an '*ethico-political framing*' strategy in the face of conspiracy theories. This involves including 'a critical exploration of the ethical, political and affective implications and consequences of conspiracy theories in people's lives' (2021, p. 13). Zembylas points out that teaching about conspiracy theories must both take students' feelings into account and use exercises that promote critical thinking, exploration, and wonder.

3 Method

In this survey we wanted to chart the extent to which students in upper secondary schools preceive they have learned about relevant topics such as critical thinking and source criticism, safe internet use, exploration and methods in social studies methods, conspiracy theory in social studies, and whether students believe in conspiracy theories. Furthermore, we wanted to investigate the connection between certain background variables and conspiracy beliefs. Statistical analyses have been carried out using SPSS. Characteristics and incidence are described through frequency tables. Correlations have been investigated using regression analyses and Kruskal-Wallis.

The study is based on a survey with closed questions conducted among students at various upper secondary schools in Agder county in Norway in the spring of 2021. The survey has been part of the social studies didactic project *Classroom research – social studies in practice and students in research projects.* The survey was prepared in SurveyXact, which is a web-based tool for data collection. It was carried out by students scanning a QR code or copying a link to the survey. The survey was conducted during teaching hours where trainee teachers in social studies were present and could answer questions. Via a letter of information, the students were informed in advance about the survey that their answers would be used for research purposes, that participation in the survey was voluntary, that they had the opportunity to withdraw at any time, and that the survey was anonymous. The project was approved by Norwegian Social Science Data Services (NSD/SIKT) and project participants were informed ahead of the survey that some of the questions could be perceived as sensitive. Contact teachers were informed about this and could pass on contact with the school's health nurse if students required.

The sample consists of 597 respondents, 198 boys, 387 girls, and 12 others (Appendix 1). We clarify that the sample has a bias regarding gender and educational program, which has consequences for the interpretation of the results. The respondents are students from all three levels (VG1–VG3) of upper secondary schools; 196 of the respondents are from VG1, 336 are from VG2, and 65 are from VG3. A large proportion of respondents report that they are at a high academic level in social studies[2] (57.8%), while 40.2% report a medium level and 2% a low academic level in social studies. 468 of the students belong to study specialization education programs, while 129 belong to vocational education programs. In terms of religion and life stance, as many as 60% answer that they belong to a religion. 40% of respondents state that they do not have a religion, that they do not know, or they left the answer blank. Christianity was the most frequently stated religious affiliation (47.6%). When asked about their parents'/guardians' level of education, some did not know or left the answer blank (19.3%). Few of the parents have no education or only primary school (4.9%); 34.5% of guardians had college/university education of four years or more. In terms of geographical background, 68.5% were born in Norway to Norwegian parents. The proportion of respondents born in Norway where one or two parents were of foreign origin, was 16.3%. The proportion of respondents who were themselves born abroad to foreign parents was 15.2%.

The questionnaire covered several topics dealing with various aspects of social studies and social studies teaching. In this article, we focus on the questions that thematize critical thinking and conspiracy theories. The students had to assess for themselves how much they perceived they had learned about critical thinking and conspiracy theories in social studies. In the survey, critical thinking and source criticism were combined. In addition, the students took a stand on what they had learned about internet literacy, research and social studies methods. This operationalization was done on the basis of previous research on connections between critical thinking and negative conspiracy beliefs. This research focuses on critical thinking as generic abilities or skills (Bronstein et al., 2019; Ennis, 1985, 1993, 2018; Facione, 1989; Georgiou et al., 2021; Paul & Elder, 2021; Pennycook et al., 2015; Pennycook & Rand, 2020).

The students were also given questions where they had to take a position on various claims. These claims were based on seven well-known conspiracy theories which we have tried to simplify, concretize, and adapt linguistically to upper secondary school students. The operationalizing of belief in conspiracy theories using simple claims is widely used among research on both young people and adults (Douglas & Sutton, 2011; Galliford & Furnham, 2017; Jolley et al., 2022; Mancuso et al., 2017; Oliver & Wood, 2014). The claims we developed were as follows:

1. It was actually Donald Trump who won the U.S. presidential election in 2020.
2. The coronavirus was created by the authorities to control us.

[2] Social studies is used here as a collective term for the joint subject Social studies and the social studies program subjects Politics and human rights, Social studies, Social geography and Sociology and social anthropology.

3. Vaccines are more harmful than the authorities state.
4. The United States itself was behind the terrorist attack on 11 September 2001.
5. The Jews rule the world.
6. The Labor Party is collaborating with Muslims to turn Europe into an Islamic state.
7. The extermination of 6 million Jews during World War II never happened.

While claim number 1 and 4 -7 are clearly not true, the claims about the coronavirus and vaccines are more contestable. It still remains to scientifically falsify these claims, for instance the side effects of new vaccines. When it comes to claim 2 and 3, it should be considered that these can be interpreted as a general skepticism towards vaccines or distrust of the authorities, and as previous mentioned, as a critique of the prevailing doxa (Bourdieu, 1984). We have chosen to include these to illustrate that conspiracy theories vary and that some newly emerged ones cannot yet be disproven.

4 Presentation of results

4.1 Self-reported learning about critical thinking and conspiracy theories

The research review above showed a clear negative correlation between training in critical and analytical thinking and belief in conspiracy theories. We have also seen that critical thinking, research and social science methods have made their way into Norwegian schools through the latest school reforms. In the survey, we asked the students to decide how much they perceive they have learned in social studies about critical thinking and source criticism, safe internet use, exploration, and methods in social science, as well as conspiracy theories.

TABLE 1: To what extent have you learned about these topics in social studies?

	Critical thinking and source criticism		Safe internet use		Exploration and methods in social science		Conspiracy theories	
	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent
Learned very little/nothing (1)	37	6.5	100	16.8	41	7.9	226	40.3
Learned a little (2)	65	11.3	79	13.2	92	17.6	124	22.1
Learned something (3)	172	30.0	152	25.5	170	32.6	112	20.0
Learned quite a bit (4)	173	30.2	137	22.9	140	26.8	70	12.5
Learned very much (5)	126	22.0	94	15.7	79	15.1	29	5.2
Valid	573		562		522		561	
Don’t know (0)	24		35	5.9	75		36	
Total	597	100.0	597	100.0	597	100.0	597	100.0
Median	4		3		3		2	
Mean	3.50		2.90		3.24		2.20	
SD	1.143		1.478		1.145		1.237	

On a scale from 1–5 (where 1 is 'little' and 5 is 'a lot'), the respondents were asked the extent to which they had learned about the topics. The respondents perceive that, relatively speaking, they have learned most about critical thinking and source criticism, somewhat less about safe internet use, exploration, and methods in social science, and the least about conspiracy theories. 52.2% of the students state that they have learned a lot or quite a lot about critical thinking, while 62.4% say they have learned quite a bit, little or nothing about conspiracy theories. The weight of the responses regarding conspiracy theories centers around 'Learned little/Nothing', 'Learned quite a bit' and 'Learned something' (Median: 2, Average: 2.2). The responses relating to critical thinking and source criticism, safe internet use, exploration and social studies method are around 'learned something', 'learned quite a lot' and 'learned a lot' (Median of 4, 3 and 3 respectively, and average of 3.5 respectively; 2.9 and 3.2).

4.2 Students' belief in conspiracy theories

The research review showed that there are few studies on the extent of conspiracy beliefs. However, one study showed that over half of the American adult population believes in at least one conspiracy theory (Oliver & Wood, 2014), and others point out that young people have a higher tendency to believe in conspiracy theories (Jolley et al., 2021). We also asked the students if they know any fellow students at school who believe in conspiracy theories. Here, 39% answer that they know 1–6 students, and 12% that they know more than seven fellow students who believe in conspiracy theories. This question says little about prevalence, and students may be referring to the same fellow students. It nevertheless indicates that conspiracy beliefs occur among students at various schools.

Table 2 provides an overview of the distribution of responses for the seven conspiracy claims in our sample. The response categories 'Don't know' and 'Neither' were combined into category 3. The average of responses to all seven theories is between 1 'Completely disagree' and 2 'Slightly disagree'. In other words, the respondents believe these claims to a very minor extent. With an average score of 2.3, 'Vaccines are more harmful than the authorities state' is the statement with which the respondents most agree, while 'The extermination of 6 million Jews during World War II never happened' has an average score of 1.3 and is thus the statement they least agree with of these seven. However, the results show a large group of students who answer 'Neither' and 'Don't know' to whether they believe in the various conspiracy theories. Spearman's rank-order correlation was carried out to determine whether the students agreed or disagreed to the same extent with the seven statements. There were strong positive correlations between all seven claims and with 'General conspiracy belief' (Appendix 2). We also see a strong internal connection and consistency between beliefs in the various claims, as indicated by a Cronbach's alpha score of 0.808. An overall variable 'General conspiracy belief' is therefore used in further analyses.

TABLE 2: Students' acceptance of conspiracy claims

Variables and scale	Frequency	Percent	Mean	SE (mean)	Median	SD
These claims are drawn from various sources on the Internet. Please decide what you think about them:						
1. It was in fact Donald Trump who won the presidential election in the United States in 2020.	597		1.54	0.05	1	1.09
Fully disagree (1)	462	77				
Somewhat disagree (2)	19	3				
Neither/ Don't know (3)	75	13				
Somewhat agree (4)	13	2				
Fully agree (5)	28	5				
2. The coronavirus was created by the authorities to control us.	597		1.65	0.05	1	1.11
Fully disagree (1)	413	69				
Somewhat disagree (2)	56	9				
Neither/ Don't know (3)	73	12				
Somewhat agree (4)	35	6				
Fully agree (5)	20	3				
3. Vaccines are more harmful than what the authorities state.	597		2.3	0.05	2	1.24
Fully disagree (1)	231	39				
Somewhat disagree (2)	93	16				
Neither/ Don't know (3)	169	28				
Somewhat agree (4)	72	12				
Fully agree (5)	32	5				
4. The United States itself was behind the terrorist attack on 11 September 2001.	597		2.1	0.05	1	1.22
Fully disagree (1)	299	50				
Somewhat disagree (2)	42	7				
Neither/ Don't know (3)	194	32				
Somewhat agree (4)	33	6				
Fully agree (5)	29	5				
5. Jews rule the world.	597		1.4	0.04	1	0.96
Fully disagree (1)	491	82				
Somewhat disagree (2)	23	4				
Neither/ Don't know (3)	50	8				
Somewhat agree (4)	16	3				
Fully agree (5)	17	3				
6. The Labor Party is collaborating with Muslims to turn Europe into an Islamic state.	597		1.53	0.04	1	0.94
Fully disagree (1)	439	74				
Somewhat disagree (2)	19	3				
Neither/ Don't know (3)	123	21				
Somewhat agree (4)	10	2				
Fully agree (5)	6	1				
7. The extermination of 6 million Jews during World War II never happened.	597		1.3	0.03	1	0.82
Fully disagree (1)	516	86				
Somewhat disagree (2)	13	2				
Neither/ Don't know (3)	50	8				
Somewhat agree (4)	7	1				
Fully agree (5)	11	2				
General conspiracy belief	597		1.69	0.03	1.57	0.73

4.3 Connections between training in critical thinking and conspiracy beliefs

The Kruskal-Wallis H test was performed to determine whether there was a difference in general conspiracy beliefs between the categories of respondents based on how much they thought they had learned about conspiracy theories and about critical thinking, safe internet use, research, and methods in social science. The median conspiracy belief score varied somewhat (Table 3), but no differences were significant:

Critical thinking and source criticism: $X^2(4) = 5.133$, $p = 0.274$

Safe internet use: $X^2(4) = 2.278$, $p = 0.685$

Exploration and method: $X^2(4) = 2.428$, $p = 0.658$

Learning about conspiracy theories stands out somewhat in that the median claim-belief score increased incrementally from 'Learned a little/Nothing' (1.29) to 'Learned a lot' (1.7), but the difference was not statistically significant here either: $X^2(4) = 8.903$, $p = 0.064$.

TABLE 3: Correlation between students' self-reported learning about critical thinking and source criticism, safe internet use, exploration and methods in social science, and belief in conspiracy theories.

	Critical thinking and source criticism		Safe internet use		Exploration and methods in social science		Conspiracy theories	
	Median	N	Median	N	Median	N	Median	N
Learned very little/Nothing	1.5714	37	1.1667	100	1.2857	41	1.2857	226
Learned a little	1.2857	65	1.3333	79	1.5000	92	1.5000	124
Learned some	1.5714	172	1.3333	152	1.5714	170	1.5714	112
Learned quite a bit	1.4286	173	1.3333	137	1.2857	140	1.7857	70
Learned very much	1.4286	126	1.3333	94	1.5714	79	1.7143	29
Total	1.4286	573	1.3333	562	1.4286	522	1.4286	561

4.4 Background variables

We have also analyzed connections between belief in conspiracy claims and various background variables. A multivariate regression analysis was performed to explore the relationship between the dependent variable 'General conspiracy belief' and the independent variables 'Academic level in social studies', 'Religiosity', 'Guardian's educational level', and 'Gender'. To obtain sample groups of a certain size and prevent bimodal distribution, the independent variables were recoded into dichotomous variables in which 'Educational level' was given the values low = 1 and high = 2, 'Guardian's educational level' was given the values without higher education = 1 and with higher

education = 2, and 'Religiosity' was given the values religious = 1 and non-religious = 0. The variable 'Gender' has the values boy = 1 and girl = 2. The assumptions for multicollinearity and singularity between the independent variables, and normality, linearity, and 'homoscedasticity' in relation to residuals, are included in the SPSS analysis.

The model showed a total variance of 15.3%, which is a weak effect. The variables Academic level in social studies, Religiosity, Guardian's educational level and Gender have a significant relationship with the variable general conspiracy belief: $F(4, 580) = 27.447$, $p < .001$. All the variables were statistically significant at level $p < .001$, except Religiosity, which was statistically significant at $p = .027$. The regression coefficients and SE can be found in Table 4. Our figures indicate that general level of belief in conspiracy theories is lower in students with a high self-reported academic level in social studies compared to students with a low self-reported academic level, and lower in those whose parents have a college or university education compared with those whose parents have no higher education. General belief in conspiracy theories is also somewhat lower among those who are not religious than among those who are religious, and somewhat lower among girls than among boys.

TABLE 4: Multivariate regression analysis of belief in conspiracy claims

Model	B	SEE	Beta	t	Sig.	R^2	ΔR^2
(Constant)	3,014	.149		20,178	<.001	.159	.153
Subjective academic level/proficiency (low=1, high=2)	-.384	.058	-.261	-6,656	<.001		
Religious (no=0, yes=1)	.125	.056	.085	2.221	.027		
Parents' level of education (no higher edu=1, higher edu=2)	-.303	.057	-.207	-5.287	<.001		
Gender (boy=1, girl=2)	-.195	.059	-.127	-3.299	.001		
N= 585							

a. Dependent Variable: General conspiracy belief

4.5 Weaknesses

The study has some weaknesses in terms of sample, such as skewness in the variable 'Gender'. Other weaknesses primarily concern operationalization. In line with previous studies (Jolley et al., 2021; Mancuso et al., 2017) we have also used claims to measure conspiracy belief. We thus measure the extent to which youth in upper secondary schools believe the specific claims and not necessarily whether they believe the conspiracy theories to which the claims are associated. As pointed out by Douglas et al. (2017) conspiracy theories involve secret plots and/or goals of overriding control. In our investigation, claim 3 stands out in this respect. Expressing belief in the claim that 'Vaccines are more harmful than what the authorities state', for example, could be an expression of general skepticism about vaccines without believing that there is any conspiracy behind it. However, the remaining claims can be said to contain an element of secret plots and/or overriding control, making the claims suitable to give a reasonable indication of belief in conspiracy theories. Further, we have no direct measures of the degree to which students think critically and are therefore unable to examine any direct

connections between critical thinking and belief in conspiracy theories.

5 Discussion

What stands out prominently in this survey is the overall lack of belief in conspiracy theories among the respondents. This is noteworthy, especially considering that the survey took place amid the Covid-19 pandemic, characterized by considerable uncertainty. This contrasts with research by van Prooijen and Douglas (2017) and Zembylas (2021), who assert that conspiracy theories and conspiracy beliefs flourish in connection with social crises. However, our analyses show that there is greater support for some conspiracy theories than for others; two of the claims that receive the highest level of support are associated precisely with the pandemic. The students mostly believe the claims that vaccines are more harmful than what the authorities state, that it was Donald Trump who won the presidential election in the United States, and that the coronavirus was created by the authorities to control us. Conspiracy beliefs are about general mistrust of authorities and society (Miller et al., 2016; Oliver & Wood, 2014; Renard, 2015), and the low belief in conspiracies among Norwegian students may be due to the fact that Norwegians generally have very high trust in the authorities and are among the most trusting in Europe (Transparency International Norway, 2021). Despite a low degree of belief in conspiracy theories, as expected our research indicate strong significant correlations between the various claims and general conspiracy beliefs (ref. Hypothesis 1). This is consistent with previous research that states that people who believe in one conspiracy theory are more inclined to believe in others (Døving & Emberland, 2018; Enders & Smallpage, 2019; Galliford & Furnham, 2017; Goertzel, 1994; Oliver & Wood, 2014; Swami et al., 2010; Swami et al., 2011).

Based on the theoretical review, we also expected to find correlations between background factors such as religious affiliation, gender and level of education, and the dependent variable conspiracy beliefs (Hypothesis 2). Oliver and Wood (2014) and Darwin et al. (2011) indicate a connection between religious affiliation and belief in conspiracy theories. In line with previous research, our analysis demonstrates that general belief in conspiracy theories is significantly higher for those who report that they belong to a religion than those who do not. Furthermore, as Cassese et al. (2020), Galliford and Furnham (2017) and Peters and Johannesen (2020) observed, we also find that girls report believing in the claims to a lesser extent than boys. However, in our data there are more girls than boys. This can also be considered to have contributed to the low overall score on conspiracy beliefs. Although our study shows a generally low degree of belief in conspiracy theories among students, over 50% state that they know students at school who believe in conspiracy theories. This says nothing about the extent of conspiracy beliefs in our sample, nevertheless it shows that the topic is relevant among upper secondary school students in Norway. In terms of education level, we find that parents' level of education significantly affects belief in conspiracy theories. This can be viewed in the context of Douglas et al.'s (2019) and Douglas and Sutton's (2019) studies that point to a connection between low level of education and belief in conspiracy theories. Our study may indicate

that conspiracy beliefs are to some extent 'inherited' and is associated with parents' level of education. Research shows a clear connection between parents' level of education and students' school performance (Bourdieu & Passeron, 1977; Frønes & Strømme, 2014), and it is therefore conceivable that learning about critical thinking also largely takes place at home.

Previous research indicates a negative relationship between ability in critical and analytical thinking and belief in conspiracy theories (Bronstein et al., 2019; Georgiou et al., 2021; Gjoneska, 2021; Lantian et al., 2021; Pennycook & Rand, 2020; Swami & Barron, 2021), and we proposed a hypothesis that we expect a negative correlation between students' training in critical thinking and belief in conspiracy theories (Hypothesis 3). In our study, however, we observe no significant negative correlation between students' self-reported learning about critical thinking and conspiracy beliefs. It is nevertheless interesting that the majority of students report that they have learned a lot or a great deal about critical thinking and source criticism while at the same time they generally have little belief in conspiracy theories. Here, however, we would like to point out that we have not carried out any kind of testing or measurement of critical skills like some of the previously mentioned studies have done. The students' understanding of what critical thinking is may therefore be subject to interpretation. Harambam and Aupers (2017) found a positive correlation between subjective self-reported critical thinking and belief in conspiracy theories. However, our survey focuses on what the students think they have learned *about* this topic, not whether they consider themselves to be critical thinkers. There will be a need for further research here that goes into more depth about connections between students' actual ability in critical thinking and conspiracy beliefs. However, one interesting background variable that emerges significantly in the analysis is self-reported academic level in social studies (Ref. Hypothesis 4). Respondents who state that they are at a low academic level believe more in conspiracy theories than students who state that they are at a high academic level. In social studies, a high academic level implies an ability in analytical thinking and critical reflection. Ledman's (2019) study of previous curricula points to *disciplinary criticality* as an important element in the Norwegian curriculum, and that critical thinking is most prominent in the part of the curriculum that was previously called 'Utforskeren' ['The Explorer']. With the introduction of new social science curricula in 2019, 'Utforskeren' was dropped. Instead, 'Undring og utforsking' ['Wondering and exploring'] was made a core element in the subjects (Ministry of Education, Science and Technology, 2019a, 2019b) and are thus considered vital skills. In their study of social science curricula, Trysnes and Skjølberg (2022) found that the focus on critical thinking and methodological skills has increased markedly from the 1990s up to the latest curricula in 2020. A high academic level may thus indicate that students also score high on critical thinking skills, although our survey does not leave room to draw any direct conclusions on this point.

Our survey also shows that a majority of students state that they have learned very little or nothing about conspiracy theories. This is consistent with previous studies (Dyrendahl

& Jolley, 2020). The study also suggests that students are uncertain in the face of conspiracy theories. For example, 32% of the students respond 'Neither' or 'Don't know' to the claim that the United States itself was behind the 11 September 2001 terrorist attack. It is of course possible that some of the students do not know about this event, but it may also be that they are actually unsure of what is true and what they should believe.

Overall, our survey indicates that academic level, knowledge, and education can protect against conspiracy beliefs to a certain extent. This is also in keeping with results from other studies (Douglas et al., 2019; Douglas & Sutton, 2018; Imhoff et al., 2022).

6. Outlook – implications for social studies teaching

Previous research suggests that a robust foundation in critical thinking can act as a deterrent against conspiracy beliefs (Douglas et al., 2019; Douglas & Sutton, 2018; Imhoff et al., 2022; Pennycook & Rand, 2020). In our survey of social studies students, we observe a minor inclination toward belief in conspiracy theories among the respondents. This inclination could be interpreted as an indication that the teaching provides effective training in critical thinking. However, it is noteworthy that both Norwegian and international research highlight students' deficiencies in knowledge and strategies for critically assessing information and sources (Breakstone et al., 2019; Jensen et al., 2019; McGrew et al., 2017; Weyergang & Frønes, 2020). Moreover, findings from the 2018 TALIS survey suggest that Norwegian teachers contribute only to a limited extent to the development of students' critical thinking and analytical abilities (Throndsen et al., 2019). This emphasizes the importance of taking a broad approach to the work with knowledge, attitudes, and skills in source criticism both in schools generally and in teacher training. In social science, critical and analytical thinking are a core value, a key competence and skill – and the subject can thus play an important role in developing the ability to detect and pick apart fake news, undocumented claims, and conspiracy theories. In the initial stages of the article, we proposed that conspiracy theories consist of self-sealing belief systems (Napolitano, 2021). Aligned with this argument, conspiracy believers may perceive themselves as critical thinkers, and any attempt at falsification may be viewed as confirmation of the conspiracy, rather than the opposite (Harambam & Aupers, 2017; Napolitano, 2021). Transitioning to the question of which authorities to trust, we will assert that teaching critical thinking skills is paramount. Napolitano (2021) claims that "conspiracy theorists can only maintain the internal coherence of their theories by not being adequately responsive to the evidence — either by adopting a poor, indeterminate explanation of the evidence, or by adopting a more specific hypothesis but failing to respond to new evidence" (p. 102).

The students in the survey have also learned little *about* conspiracy theories in social studies, and there is a large proportion of respondents who answer the various claims with 'Don't know'. This may indicate a need for further teaching that focuses on critical thinking in the context of conspiracy theories. Here, in line with previous research, we would like to suggest that teachers use other teaching approaches than the purely

epistemic one which deals only with falsifying the theories. Harambam (2021), Zembylas (2021) Cíbik and Hardoš (2020) recommend also dealing with the ethical dimension of conspiracy theories, while Casam (2019) believes they should be taught as a type of political propaganda. The existential dimension should also be addressed, considering that a substantial number of conspiracy believers perceive the world as precarious and characterized by uncertainty. Zembylas (2021) suggests including both the ethical and political dimension of conspiracy theories in teaching. He refers to two strategies teachers can use when dealing with conspiracy theories: teachers should treat conspiracy theories as a sensitive – not a controversial – topic. Conspiracy theories appeal to feelings such as anxiety, mistrust, alienation and uncertainty, and teaching should primarily consider the student's feelings instead of trying to falsify the theories. Jolley et al. (2018) find that the teenage years represent a particularly vulnerable phase for developing beliefs in these theories. One of the reasons for this may be a lack of maturity when it comes to regulation of emotions (Ibid.). An empathetic listening adult who meets students with understanding may therefore have a greater effect than a teacher who is clearly confrontational and focuses exclusively on scientific facts. Zembylas (2021, p. 13) points out that: 'Showing empathy to those who believe in conspiracy theories, for example, rather than "rejecting" those people and (re)branding them as "paranoid" or "stupid", entails recognizing their feelings of uncertainty, anxiety and alienation'. He further recommends combining such an empathetic strategy with a clear focus on critical thinking (Ibid.), which is also in line with findings in Peters and Johannesen's (2020) study. Davies points to how critical and analytical thinking can contribute to resilience (Davies, 2016, 2015, 2014), and Nordbruch and Sieckelinck (2018) propose a critical exploratory method that takes the students' lifeworld as its starting point and allows them to explore their own ideas and interests. In encountering conspiracy theories, this may also involve teaching critical thinking *through* the actual use of conspiracy theories in the classroom.

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Appendix 1: Overview of sample

Category	Variable	Total
	N	597 (100%)
	Boys	198 (33.2%)
	Girls	387 (64.8%)
	Other	12 (2.0%)
Grade level		
	High school y1	196 (32.8%)
	High school y2	336 (56.3%)
	High school y3	65 (10.9%)
Academic proficiency in social science		
	Low (1–2)	12 (2.0%)
	Average (3–4)	240 (40.2%)
	High (5–6)	345 (57.8%)
Educational program		
	General studies	468 (78.4%)
	Vocational	129 (21.6%)
Religion		
	Other religion/philosophy of life	21 (3.5%)
	Buddhism	1 (0.2%)
	Hinduism	1 (0.2%)
	None	182 (30.5%)
	Islam	34 (5.7%)
	Christianity	284 (47.6%)
	Don't know/no answer	74 (12.4%)
Parents' level of education		
	No education	6 (1.0%)
	Primary school	23 (3.9%)
	Highschool – Vocational high school	79 (13.2%)
	Highschool – General studies	41 (6.9%)
	University/College 1–3 years	127 (21.3%)
	University/College 4 years or longer	206 (34.5%)
	Don't know/no answer	115 (19.3%)
Nationality		
	Self: Norwegian. Parents: Norwegian	409 (68.5%)
	Self: Norwegian. Parents: other western country	27 (4.5%)
	Self: Norwegian. Parents: Africa/Middle East	15 (2.5%)
	Self: Norwegian. Parents: Asia	20 (3.4%)
	Self: Norwegian. Parents: Eastern Europe	11 (1.8%)
	Self: Norwegian. Parents: South America	8 (1.3%)
	Self: Norwegian. Parents: Don't know	16 (2.7%)
	Self + parents: other western country	9 (1.5%)
	Self + parents: Eastern Europe	14 (2.3%)
	Self + parents: Asia	9 (1.5%)
	Self + parents: Africa/Middle East	19 (3.2%)
	Self + parents: South America	3 (0.5%)
	Self + parents: Don't know/no answer	37 (6.2%)

Appendix 2: Spearman correlation

		Claim 1	Claim 2	Claim 3	Claim 4	Claim 5	Claim 6	Claim 7	General conspiracy belief
Claim 1	Pearson Correlation	1	.403**	.362**	.248**	.427**	.484**	.351**	.629**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	545	527	486	435	526	468	521	545
Claim 2	Pearson Correlation	.403**	1	.541**	.474**	.432**	.464**	.357**	.738**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000	0.000
	N	527	564	502	448	544	476	535	564
Claim 3	Pearson Correlation	.362**	.541**	1	.391**	.316**	.387**	.254**	.717**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000	0.000
	N	486	502	514	422	500	454	496	514
Claim 4	Pearson Correlation	.248**	.474**	.391**	1	.376**	.348**	.365**	.680**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000	0.000
	N	435	448	422	453	447	413	436	453
Claim 5	Pearson Correlation	.427**	.432**	.316**	.376**	1	.553**	.608**	.675**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.000
	N	526	544	500	447	560	487	538	560
Claim 6	Pearson Correlation	.484**	.464**	.387**	.348**	.553**	1	.528**	.692**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000	0.000
	N	468	476	454	413	487	491	478	491
Claim 7	Pearson Correlation	.351**	.357**	.254**	.365**	.608**	.528**	1	.599**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000		0.000
	N	521	535	496	436	538	478	556	556
General conspiracy belief	Pearson Correlation	.629**	.738**	.717**	.680**	.675**	.692**	.599**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
	N	545	564	514	453	560	491	556	597

**. Correlation is significant at the 0.01 level (2-tailed).