

Combatting conspiracies in the classroom: Teacher strategies and perceived outcomes

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Abstract

This article draws on data from a specially commissioned representative survey, which elicited responses from 7691 teachers in primary and secondary schools in England, to examine how teachers perceive young people's engagement with a variety of different conspiracy theories in school settings and how they respond to them. Approximately 40% of teachers report encountering students who supported conspiracy theories. In response, teachers use a wide range of contradictory strategies, including opening up discussion, closing it down, challenging students in class and reporting individuals as safeguarding concerns. The research evidence suggests that several of these strategies are likely to be ineffective or even backfire to reinforce conspiracy thinking. Unsurprisingly then, few teachers report successful responses. The article concludes that the evidence of possible negative impacts of unprepared teachers confronting conspiracy theories at school means that teachers need to be better equipped through training, support and further research.

KEYWORDS

citizenship education, conspiracy theories, controversial issues, teaching

INTRODUCTION

Recent years have witnessed a rise in concerns by policymakers, academics and others about the prevalence of conspiracy theories, especially following the global spread of the

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Key insights

What are the main issues this article addresses?

This article considers the nature of contemporary conspiracy theories, the extent to which teachers encounter them in schools and the kinds of responses they adopt when students raise them.

What are the main insights that the article provides?

A large minority of teachers (40%) encounter students who support conspiracy theories but, although teachers report adopting a wide range of strategies in response, very few consider them to have been successful.

COVID-19 pandemic and the accompanying dissemination of conspiracy theories related to COVID. There are, in fact, a wide range of different conspiracy theories in circulation in contemporary societies, and conspiracy theories have most likely been in existence for as long as human communities. However, since social media took off in the late 1990s, such theories have been able to spread quickly, with false information easily amplified and propagated, both inadvertently and deliberately. Drawing on data from a specially commissioned representative survey, which elicited responses from teachers in primary and secondary schools in England ($n = 7691$), this article examines how teachers perceive young people's engagement with a variety of different conspiracy theories in school settings and how they respond to them.

The article is structured as follows. First, it situates the research within current literature on conspiracy theories, discussing concerns about the rapid spread of false information and about young people's susceptibility to conspiracy theories, as well as educational responses to the presence of conspiracy theories in society and teachers' dilemmas when considering how best to deal with students raising such theories at school. Second, the article summarises the research methodology. Third, it sets out the survey results. It provides evidence that teachers contend with students discussing conspiracy theories in different contexts at school and that a significant proportion of the teachers sampled report encountering students who support conspiracy theories to some extent. The article highlights the fact that different groups of teachers have different levels of confidence in their ability to deal with students mentioning conspiracy theories, and it discusses the evidence that teachers respond in a wide range of different ways. Finally, the article argues that it is problematic that such a variety of different approaches are adopted by teachers, especially given their own lack of confidence that they are having a positive influence on their students. It argues that the evidence of possible negative impacts of unprepared teachers confronting conspiracy theories at school—unintentionally serving to reinforce student support for such theories—means that teachers need to be better equipped to deal with conspiracy theories; this includes teachers being made aware of research evidence and helped to develop effective strategies, such as planning suitable lessons and managing and, when necessary, closing down inappropriate conversations, as part of their professional development.

LITERATURE REVIEW

Conspiracy theories, infodemics and mis/disinformation

Whilst there is no universally accepted definition of a conspiracy theory, we take as our starting point that they generally include an explanation for an event or state of affairs that holds that this situation has been caused by individuals or groups of conspirators, usually very powerful and working in secret, and with nefarious intent (see Bale, 2007, pp. 47–51; Barkun, 2013, p. 3; Keeley, 1999, p. 116). Conspiracy theories invariably offer significantly fewer probable explanations for events than other non-conspiracy-based accounts and assume that when an event occurs, it must have been intended by someone; randomness or coincidence or accident are dismissed (Bale, 2007, p. 53; see also Barkun, 2013, p. 3; Swami et al., 2010, p. 751). A key feature of a conspiracy theory, as compared to a scientific theory, is that it relies on circular or tautological reasoning and cannot be falsified; the lack of evidence supporting a conspiracy theory and evidence that contradicts it are both treated as somehow demonstrating that the conspiracy theory is true (Barkun, 2013, p. 7; Keeley, 1999, pp. 120–121) and that the official narrative must involve some kind of cover-up (Goertzel, 2010, pp. 494–495). Our starting point for this paper is therefore that conspiracy theories tend to rely on overly elaborate explanations, ascribe deliberate and malign personal intentionality to outcomes rather than seeking systemic explanations, and are often self-sustaining and resistant to contrary evidence.

Conspiracy theories are not new and have a long history (see Greig, 2006), and frequently scapegoat particular groups, such as Jewish people (Aaronovitch, 2010, ch. 1; van Prooijen & Douglas, 2017, pp. 324–326). Of course, conspiracies do sometimes occur, for example, the involvement of the then US President, Richard Nixon, in the Watergate scandal—the conspiracy to break into the Democratic Party headquarters in 1972 and the subsequent attempt to hide this fact (Woodward & Bernstein, 2006), or tobacco companies conspiring to conceal information about the harmful effects of their products for many years after they knew about them, including funding public relations firms to try and muddy the waters and cast doubt on the scientific evidence (Brandt, 2007; Hilts, 1996). However, conspiracy theories have been linked with a wide variety of very serious negative consequences. For example, in the recent past, the hundreds of thousands of avoidable deaths from AIDS in South Africa as a result of the South African government's groundless questioning of HIV science and the resulting delay of antiretroviral treatment (Nattrass, 2012, ch. 5); the false claims of a link between MMR vaccines and autism in children by the discredited British former physician Andrew Wakefield, which led to a fall in vaccination rates in several countries (see Deer, 2020); and the fictitious QAnon 'deep state' conspiracy theories in the United States, including the baseless claim that the 2020 US Presidential election was stolen from Donald Trump, which played a part in the violent US Capitol Building attack on 6 January 2021 (see Rothschild, 2021).

Early work on conspiracy theories, such as that of the American historian Richard Hofstadter (1966), viewed conspiratorial thinking as pathological (Butter & Knight, 2019, pp. 34–36; see also Radnitz & Underwood, 2017). For Hofstadter (1966), since the establishment of the republic, Americans have had a tendency to believe all sorts of unfounded and paranoid fantasies, reflecting a lack of trust of those in positions of power in society—and this thinking, held particularly by those on the political fringes, especially (but not only) on the political right, could be seen as a threat to liberal democracy. However, more recent work has questioned the notion of pathology, finding evidence that significant numbers of citizens hold conspiracy theories of one kind or another (Brotherton, 2015; Oliver & Wood, 2014). Sunstein and Vermeule (2009) have described conspiracy theories as being underpinned by a 'crippled epistemology' through which advocates adopt a belief without understanding

how genuine knowledge is constructed. Others have stressed the psychological function of conspiracy theory in fuelling insider/outsider identity. For example, van Prooijen and van Vugt (2018) have argued that belief in conspiracy theories has evolutionary origins; that it was useful for early humans to share beliefs with other members of their community and to be suspicious of groups they did not belong to, given the dangerous nature of the conditions in which they lived. Moreover, where such theories were once limited to the margins of public discourse, they have become increasingly prevalent since the late twentieth century, driven, in part, by technological change and the development of social media, leading to the ubiquity of easily accessible online information (Andrade, 2020, pp. 513–514).

This has coincided with the rise of concern over ‘infodemics’, a term first coined in 2003 by the political scientist and journalist David Rothkopf in a column in *The Washington Post* on the severe acute respiratory syndrome (SARS) outbreak (Rothkopf, 2003; see also WHO, 2020). It refers to the rapid and extensive proliferation of both accurate and inaccurate information about something. An infodemic occurs when there is a very large volume of information available about an issue or problem, both offline and online, and where, through the spread of false information, whether unintentionally (misinformation) or intentionally (disinformation), citizens can become confused and distrustful of authorities, which may then struggle to deliver effective responses. Misinformation and disinformation can infiltrate mainstream news discourse and legitimise false narratives. Some writers have expressed concerns about the pervasiveness of ‘fake news’, that is the propagation of false stories that appear to be news, and about the implications of a ‘post-truth’ environment, in which appeals to emotion take precedence over factually and evidentially based assertions (d’Ancona, 2017; McIntyre, 2018). In February 2020, as the severity of the COVID-19 pandemic started to become clear, the Director-General of the World Health Organisation (WHO), Tedros Adhanom Ghebreyesus, told the Munich Security Conference: ‘We’re not just fighting an epidemic; we’re fighting an infodemic. Fake news spreads faster and more easily than this virus and is just as dangerous’ (Ghebreyesus, 2020).

UNESCO (2020, p. 3) has also referred to a ‘disinfodemic’ in which 30–40% of social media posts are from unreliable sources, are misleading or include manipulated content. This includes disinformation, with the promotion of false stories about the source and treatments of the virus, and misinformation (distorted interpretations of legitimate sources) put forward by politicians and other public figures (Reilly, 2020). Rubin (2019) uses the epidemiological disease model to discuss mis/disinformation, arguing that we are witnessing a virulent pathogen (widespread false and misleading information online), susceptible hosts (individuals overwhelmed by information and lacking the skills to discern the accurate from the inaccurate) and a conducive environment (poorly regulated social media platforms). That environment is truly transnational and, whilst governments may attempt to protect their populations from the virus by controlling borders, there is no such option for controlling the infodemic (Bridgman et al., 2021). But this is more than a metaphor, or a parallel process; there is evidence that the infodemic and the pandemic are reciprocally linked.

In previous epidemics, such as Ebola, a complex web of misinformed beliefs arose around the causes and treatments, and these were resistant to the provision of ‘fact-checking’ services (MacPherson, 2018). In the early stages of the COVID-19 pandemic, a significant minority of UK citizens believed that COVID-19 ‘was planned by pharmaceutical corporations and government agencies’ (10%), ‘seems to be connected to 5G mobile networks’ (5%) or was ‘probably created in a lab’ (24%) (Allington & Dhavan, 2020). Such beliefs are also associated with being less likely to follow public health advice, and similar levels of false beliefs are also reflected in international data (Kleis Nielsen et al., 2020).

These beliefs represent a shift from believing individual items of disinformation, to connecting with broader conspiracy theories about the pandemic underpinned by a wider narrative about secretive groups with evil intent. Here, conspiracy theory refers to ‘explanations

for events that implicate secretive and powerful groups who cover up information to suit their interests' and they tend to flourish in times of crisis, when people are 'struggling to make sense of a chaotic world' (Jolley et al., 2021, p. 500). However, as Jolley and his colleagues point out, whilst the adoption of conspiracy theories may not actually fulfil people's need to make sense of the world, they do have other predictable negative consequences, including a loss of trust, the adoption of risky behaviour, a rejection of collective political action and antagonistic feelings to outgroups or those being scapegoated within the conspiracy theories (typically including a racist or antisemitic dimension; OSCE/ODIHR, n.d.). COVID-19 disinformation has been positively correlated with a rise in hate speech (Uyheng & Carley, 2020) and the UN Secretary General expressed his concern that 'the pandemic continues to unleash a tsunami of hate and xenophobia, scapegoating and scare-mongering' (Guterres, 2020), leading Human Rights Watch (2020) to call for national action plans to counter the intolerance shown towards Chinese and Asian people in many western countries.

Young people and conspiracy thinking

Whilst much of the data relating to these issues is drawn from adults, there are several reasons to be particularly concerned about young people. They are less likely than adults to be able to differentiate true from false stories (NLT, 2018; Wineburg et al., 2019), more likely to use social media sources (Ofcom, 2020b) and use different social media platforms from adults (Kemp, 2020). Research in the United Kingdom and Canada suggests that young people returned (at least initially) to more traditional trusted news outlets for information on COVID-19 (Parsons Leigh et al., 2020). However, UK data suggest that young people have been more likely to develop news fatigue and avoid COVID-19 news (Ofcom, 2020b), and have been less likely to follow public health advice (Ofcom, 2020a). Although young people are not the sole (or even primary) group distributing misinformation (Guess et al., 2019), research shows that they often share content they later find out is unreliable (Robb, 2017). In addition, whilst in theory young people may encounter a wide variety of views/news, in reality they often access news that is mediated through 'opinion leaders' in their friendship and social media networks (Bergström & Jervelycke Belfrage, 2018).

In relation to conspiracy theories, there has been little work focused explicitly on young people, but what has been carried out by Jolley et al. (2021) suggests that 14–18 years of age may be a period of increased susceptibility. Hope not Hate reports that its research has consistently found that younger people are more open to conspiracy theories than other groups (Carter & Lowles, 2022, p. 38). For example, a recent report found that 34% of 18–24-year-olds believe that Jewish people have an unhealthy control over the world's banking system, compared to 12% of those aged 75 and over (Carter & Lowles, 2022, p. 39). This concern is heightened for marginalised young people who (in their search for inclusion) may be more likely to seek out extremist groups that promote hatred and violence and draw on conspiracy theories (Parker & Gill, 2021). In relation to the infodemic, De Koninck et al.'s (2021) international research demonstrated that young people are more likely to report COVID-19-related conspiracy theories in all the countries they researched (including the United Kingdom).

Educational responses

Whilst UNESCO points to a variety of organisations offering online content monitoring and fact-checking services (Posettie & Bontcheva, 2019a), it also notes that young people are a relatively under-researched group in this regard (Posettie & Bontcheva, 2019b).

Wineburg et al. (2020) have observed that most young people do not employ any deliberate fact-checking strategies, and that some widely promoted generic checklists in education may actually make young people more susceptible to disinformation. However, Wineburg et al. (2019) also demonstrate that more focused programmes can produce measurable improvements in criticality. Cook et al. (2017) argue that, rather than using detailed prescriptive checklists, most people tend to use a kind of mental rule of thumb, asking themselves: *Have I heard this before? Does it fit in with what I've already heard? What do others say about it?* Such shortcuts are of little use in a fast-moving, 'echo-chamber' online world, where affirmative answers may simply prove one has already disappeared rather deeply down a rabbit hole. The answer, therefore, might be thought to lie in the relatively mainstream area of critical (digital) media literacy work. By helping young people understand the processes through which information is distorted and amplified, one might expect education to provide the critical skills to enable an individual to extricate themselves from mis/disinformation and COVID-related conspiracy theories (Polizzi, 2020). Cook et al.'s (2017) experiment with adults provides some supporting evidence for such an approach. They found that using examples of common disinformation techniques (e.g., the use of 'fake experts' or setting up a 'false balance' between perspectives) helped participants to apply the same critical insights to other, unrelated, case studies. For example, seeing how the tobacco industry manipulated the public debate about smoking risks can encourage greater criticality over media debates about climate change or COVID-19.

Regardless of the potential of such general media literacy programmes, some teachers have reported 'panic moments' when confronted by conspiracy theories in the classroom (Dyrendal & Jolley, 2020, p. 5). This indicates that conspiracy theories may feel more urgent or risky, and that therefore a general media literacy intervention may not entirely fit the bill. Berman and Stoddard (2021, p. 300) pick up Sunstein and Vermeule's (2009) argument that conspiracy theories represent a form of 'crippled epistemology' (see also Hardin, 2002) in order to develop educational responses that tackle what they see as a fundamental misunderstanding of the nature of evidence and reasoning. Whilst this encourages a corrective pedagogic response, they also draw attention to the risks of 'directional motivated reasoning' (Berman & Stoddard, 2021, p. 300), which means that presenting an individual who supports a conspiracy theory with a critical argument about their beliefs may strengthen their identification with the belief (the 'backfire effect'), whereby they avoid and reject information that contradicts the conspiracy theory they hold (Berman & Stoddard, 2021, pp. 300–301), and they may seek further evidence from ubiquitous social media to support their view (the 'bolster effect'; see Mercier & Sperber, 2011). Berman and Stoddard (2021) observed three distinct approaches in American classrooms relating to false 9/11 conspiracies, such as the idea that the terrorist attack was really an 'inside job' perpetrated or allowed to happen by the US government, or that the Twin Towers were not brought down by the planes but by explosives planted in the buildings in advance (see Dunbar & Reagan, 2006 for a debunking of various 9/11 conspiracy theories). First, some teachers asked students for evidence to support their conspiracy theory, or directly challenged it (with the obvious risks just outlined). Second, others explicitly taught about how conspiracy theories work, in the hope that students might transfer this understanding over to their own beliefs. A third approach was to use documentary films, although this raises concerns of encouraging 'empty sentimentality' (Berman & Stoddard, 2021, p. 306).

Some advocate that teachers should adopt open discussions of conspiracy theories, and Peters and Johannesen (2020) explore how they might be framed as controversial issues. This draws on an established pedagogic tradition in which controversial political/moral issues are taught in an open way, to encourage students to think about the issue and the different perspectives adopted by people in relation to it, rather than to adopt a

right/wrong answer (Pace, 2021). Clark (2018) has demonstrated that such approaches can increase perspective taking, so that students consider the opinions and perceptions of others. The obvious problem here is that by virtue of calling something a conspiracy theory, we are implying that it is wrong, and Hayward et al. (2022) have observed that misapplying controversial issues pedagogy, when an issue is not a genuinely open one, can lead teachers to adopt covert strategies to coerce students to adopt a more acceptable stance. This echoes Pace's (2015) observations that students may respond to such discussion by 'ventriloquising' what the teacher wants to hear, rather than engaging in serious open dialogue. Peters and Johannesen (2020) acknowledge that conspiracy theories are not 'controversial' according to the epistemic criteria widely used (Hand, 2008), because there is no rational basis for believing they are legitimate rational views. However, they argue for a more expansive definition of 'controversial' reflecting the lived reality for young people in a political culture where arguments are raging about such beliefs—what good is it to claim QAnon is not controversial when its adherents are storming the Capitol Building?

Hobbs (2017) urges teachers to consider the bigger picture and rather than questioning the belief itself, consider why people might be attracted to it, what it tells you about the context in which it arose, what arguments are used to sustain it and what impacts it might have on different people. In Peters and Johannesen's (2020) application of these ideas in the history classroom, they taught students about conspiracy theories in general then deconstructed some examples. They found that some young people who had performed a competent critical analysis of a conspiracy theory in class, nevertheless developed some sympathy for the theory as a result of this engagement. This approach is further complicated by evidence that teachers often find it very difficult to sustain open, critical discussions about conflictual issues (Bickmore & Parker, 2014) and that when teachers do attempt to do so, they sometimes leave students feeling unacknowledged and further marginalised (Parker & Bickmore, 2020).

Vitriol and Marsh (2021) have demonstrated that merely informing people about COVID-19 conspiracy theories can make them more likely to give them credence and reduce their confidence in their prior scientific knowledge. In response to such concerns, several authors in the field have returned to older work by McGuire on 'pre-bunking' as a specific technique to counteract conspiracy theories (Dyrendal & Jolley, 2020; Jolley et al., 2021; van der Linden et al., 2017). In this approach, the teacher introduces the conspiracy theory with a warning that it is false information. Once the view is framed as 'wrong' and the teacher follows up the theory with a detailed explanation of why it is wrong and how it is constructed, the idea is that students are quite likely to accept it as an example of an inaccurate belief. This comes close to presenting an educational inoculation, but it is presented in the literature as a theoretical possibility, rather than evaluated in contemporary educational settings. Peters and Johannesen's (2020) work comes close to testing this idea but, by their own admission, seems to have backfired to some extent.

Teachers' dilemmas

The range of approaches considered so far leaves teachers in a difficult situation. Should they engage in discussion of conspiracy theories as they arise? Are teachers obliged to point out the flawed logic or lack of evidence to try to 'defeat' them? Or will their efforts backfire, potentially reinforcing mistaken beliefs and further propagating them with others in the class? If they do open them up to critical discussion, as with other controversial issues, do they inadvertently imply they are acceptable, even though they are examples of 'crippled epistemology'? Or should they adopt the opposite approach and pre-emptively teach these

ideas as wrong, regardless of such views being promoted by parents, media, celebrities and even presidents? Should they simply rely on generic (and potentially outdated) critical media literacy programmes to inoculate young people against mis/disinformation, and if so, what should they do in the meantime, when serious or harmful examples of misconceptions arise? And, if conspiracy theories fuel racist scapegoating and undermine democratic politics and social cohesion, should they teach about them in the broader political context in which these problems arise?

Our discussion of the literature underlines the urgency of the problem and demonstrates the lack of consensus about the best way ahead. In this troubling context, teachers and young people are encountering these dangerous ideas, and engaging with them in several ways (or not at all), which may be variously effective or counterproductive. The literature that directly addresses teaching about conspiracy theories in the context of the pandemic tends to either offer teachers general advice about teaching (which often fails to reflect the complex and nuanced considerations we have highlighted) (e.g., AFS & SSV, 2020; Council of Europe, n.d.; Lewandowsky & Cook, 2020) or focuses on small-scale teaching interventions (e.g., Peters & Johannesen, 2020). Hayward and Gronland's (2021) advice for teachers provides an interesting exception in advising teachers to close down conversations, primarily to avoid the unintentional side-effects of backfire and bolstering beliefs. This has been endorsed in UNESCO's (2022) advice, but it still remains unexplored in empirical research. This paper presents an important step to gaining a clearer picture of how teachers perceive and respond to young people mentioning conspiracy theories in schools, and it sets out lessons that can be drawn for schools and teachers in helping young people navigate political and media environments in which false and dangerous ideas have a significant presence.

METHODOLOGY

To investigate the issue of how teachers perceive and respond to young people mentioning conspiracy theories in schools, this research uses quantitative data from a specially commissioned Teacher Tapp survey. Teacher Tapp is a daily survey app for teachers, started in 2017, that provides a representative sample of over 7000 primary and secondary school teachers in both state and private schools across England (<https://teachertapp.co.uk/>). The survey ran on 22 and 24 August 2022, with the questions administered in two phases. In phase 1, 7691 teachers were asked three questions about their experience of conspiracy theories being mentioned in school. In phase 2, we focused on the experiences of the subgroup (3149),¹ filtered from the questions asked on the first day, who said they had experienced them, and six questions were addressed to this group (see Appendix A for the full set of questions).

The profile of the respondents was supplied by Teacher Tapp and stayed fairly consistent between phases 1 and 2, with the exception of age phase as primary teachers were less likely to have experienced conspiracy theories being mentioned (see Table 1; note that the percentages do not always add up to 100% due to rounding and because a very small number of respondents, generally <1%, had not provided information for all questions). A distinctive feature of the Teacher Tapp data is that the data are 'weighted' to ensure that the results fit the national profile of teachers (based on the School Workforce Census for state schools, supplemented with information from the Independent School Census for private schools). Hence, our descriptive results are weighted to be representative of the underlying populations of interest. Teacher Tapp's weighting ensures that the results are representative of the workforce, but it is not a random sample and is therefore susceptible to recruitment

TABLE 1 Profile of respondents.

	Phase 1	Phase 2
Age		
20s	16%	17%
30s	36%	37%
40s	32%	31%
50+	16%	14%
Gender		
Female	73%	73%
Male	26%	27%
Phase		
Primary	30%	19%
Secondary	67%	77%
Special/Alternative Provision ^a	3%	3%
School type		
Private	7%	7%
State-funded	92%	93%
Seniority		
Class teacher	36%	35%
Middle leader	40%	44%
Senior leader	19%	17%
Headteacher	6%	3%
Free School Meals quartile ^b		
Q1 Affluent	20%	19%
Q2	18%	18%
Q3	16%	17%
Q4 Deprived	16%	16%
<i>N</i> teachers	7691	3149

^aBecause this was such a small group, we excluded them from our reporting to focus on mainstream teachers.

^bFor this question there was no data for around 30% of the sample.

bias. However, Teacher Tapp does run some tests to check whether particularly enthusiastic respondents might skew the results, for example, by running comparisons between early adopters, those who are particularly engaged with research, or heavy users of social media and the rest of their respondents to check if there are significant differences (<https://teachertapp.co.uk/how-it-works/>).

The dataset was supplied by Teacher Tapp as two spreadsheets covering the main questions and demographics, structured with one row per response. In this case that represented almost 78,000 rows of data for the main questions and a further 10,000 rows of data relating to demographics. The analytical task began by converting this specialised database structure into one row of data per teacher, with separate columns for each question response. The resulting data were analysed using bivariate analysis routines in IBM SPSS 28. The converted data structure facilitated the kinds of analysis below, where questions may be cross-tabulated both against each other and by relevant demographic data, and for subsets of the overall data (secondary school teachers).

FINDINGS

The spread of conspiracy theories

Teachers were asked about which general conspiracy theories had been mentioned by students over the past two years, and which COVID-specific conspiracies had been mentioned since the start of the pandemic. When interpreting these figures, it is important to remember that teachers were asked if they had encountered students who *mentioned* these conspiracies, not who *espoused* them, so we cannot assume that conspiracy thinking is widespread, rather that students are discussing them. That said, research published in 2020 found that approximately a third of young people (in late adolescence) believed that it was at least ‘probably’ true that the world was ruled by a secret elite, and one in five were sceptical about global warming, so it is also reasonable to assume that the fact that these ideas are circulating reflects the reality that many young people are attracted to them (Carter, 2020, p. 54). In our data, when we asked teachers in phase 2 to reflect on the success of their teaching interventions, only 6% said it was irrelevant because no-one supported conspiracy theories, which suggests that approximately 40% of the entire sample of teachers had encountered students who supported conspiracy theories to some degree.ⁱⁱ

In relation to general conspiracy theories (Figure 1), the data clearly show that teachers are more likely to experience students mentioning conspiracy theories in secondary schools than primaries.ⁱⁱⁱ Whilst two-thirds of primary teachers said their students had never mentioned conspiracy theories, this was true for only a third of secondary teachers. This reflects the research evidence, which suggests that adolescence and early adulthood are the ages most associated with attraction to conspiracy theories (Carter & Lowles, 2022; Jolley et al., 2021). Many young people are intrigued by them, and may start exploring them, or even trying them out to see what the appeal is. However, we should also remember that secondary teachers generally teach more individual students than primary teachers, who commonly spend most of their time with one class. In line with previous research into young people and conspiracy thinking, by far the most commonly selected category was ‘Illuminati/ New World Order (secret elite)’, which had been heard by 41% of secondary teachers and

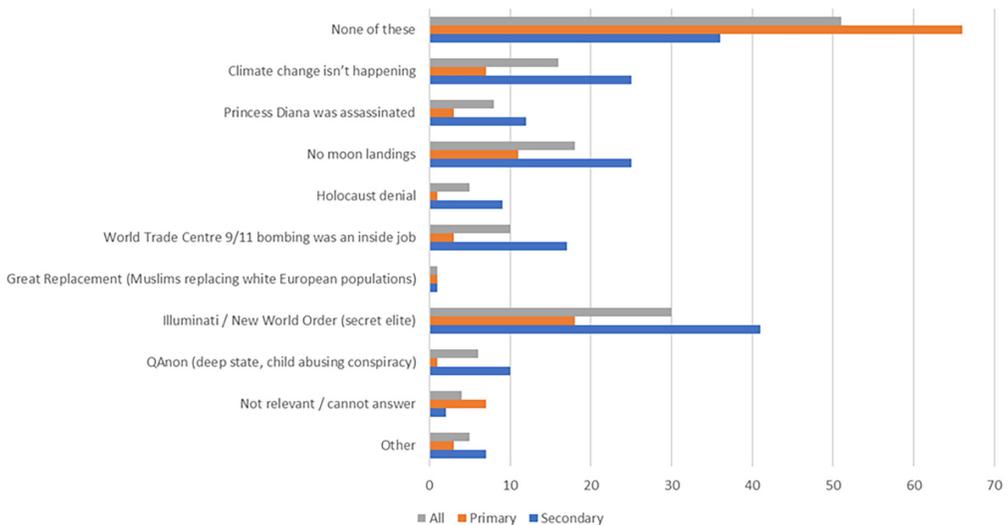


FIGURE 1 Which conspiracy theories have students mentioned over the past two years? 7672 teachers responding.

18% of primary teachers. The next most frequently mentioned related to climate change denial and faked moon landings.

In relation to COVID, most of the common conspiracies were also being discussed in schools, especially secondary schools (Figure 2). Our data show that 43% of secondary teachers reported having heard students mention the idea that COVID was created in a lab, and 35% heard students mention that the vaccines amounted to a mass experiment, whilst 29% also heard students discussing the idea that the vaccine rollout was a ruse to inject micro-chips into people, and that COVID did not exist. Anti-vaccine sentiment was reported more in the most deprived schools (measured by Free School Meals), with 22% of teachers in the most deprived schools hearing about the microchipping theory compared to 17% in the most affluent schools, and 30% in state secondaries compared to 19% in private secondaries.

In phase 2, teachers were asked about how frequently these kind of conspiracy theories were mentioned by students and Table 2 shows that, by and large, these are not common, with the majority of teachers indicating that they only arise occasionally. Secondary teachers are more likely to report that they arise 'quite frequently', with the highest rates being reported by English and Humanities teachers (18% report they hear conspiracies mentioned very frequently in these subjects; for this analysis we used Teacher Tapp's definition of Humanities, including History, Geography and RE), compared to only 8% of Maths teachers.

These issues were mentioned in lessons, in tutor time and outside of planned events, such as during breaktime. The data show that 70% of secondary teachers said they heard these issues being discussed in their classrooms, but only 38% of primary teachers agreed. By contrast, 56% of primary teachers reported that such issues arose in breaktimes, whilst 44% of secondary teachers agreed.

Teachers' responses to conspiracy theories

In addition to asking about which conspiracy theories are mentioned and how frequently this occurs, we asked teachers what they thought the best educational response might be. In the first phase, we asked all participants the hypothetical question: *In general, what do you think teachers should do when students mention conspiracy theories?* Figure 3 demonstrates a variety of responses. Here, the difference between primary and secondary phases was relatively small, although secondary teachers were more likely to suggest referring students

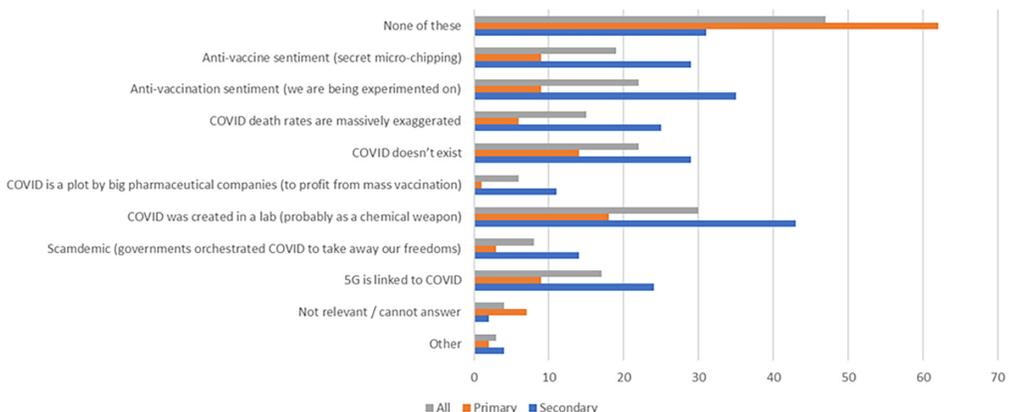
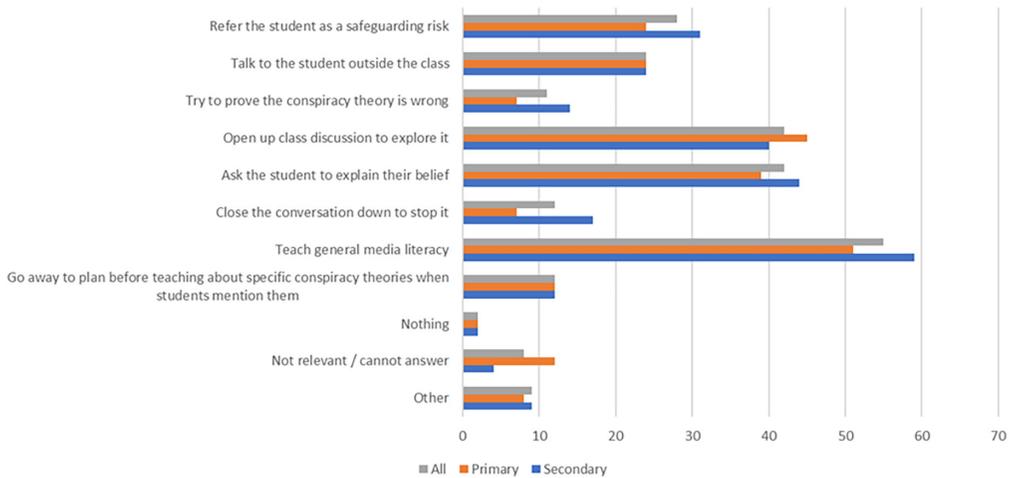


FIGURE 2 Which COVID conspiracies have students mentioned since the start of the pandemic? 7635 teachers responding.

TABLE 2 How frequently have you encountered students talking about conspiracy theories over the past 2 years?

	All	Primary	Secondary
Once	13%	19%	7%
Occasionally	72%	68%	75%
Quite frequently	10%	5%	14%
Very frequently	2%	2%	2%
Not relevant/cannot answer	4%	6%	2%

Note: 3149 teachers responding.

**FIGURE 3** What should teachers do when students mention conspiracy theories? 7594 teachers responding.

as a safeguarding risk but, even in primary schools, almost a quarter of teachers suggested this course of action. By far the most common response was a general strategy to teach media literacy, presumably in the hope that it would provide students with some resilience to conspiracy theories circulating online and through social media. Next, teachers erred on the side of opening up the conversation, either by opening up the issue for whole-class discussion or by asking the student to explain their belief (42% suggested these strategies). This tendency to open things up to discussion meant that few teachers thought it would be appropriate to close down the conversation (7% of primary and 17% of secondary teachers). Relatively few teachers suggested that they would try to prove the conspiracy wrong, although secondary teachers were twice as likely to do this (14%) as primary teachers (7%), and men were more likely than women to suggest this (18% vs 8%). Also, relatively few suggested that teachers should go away to plan lessons that respond to specific conspiracy theories brought up by students.

The general sense from these responses is that teachers have a perhaps optimistic belief that media literacy can act as a preventative strategy and, when issues do arise, they are more inclined to open up a space for discussion than they are to deliberately close it down.

In the subsequent questions in phase 2, we focused more explicitly on the experiences of teachers who had heard conspiracy theories in their schools.

Figure 4 shows the responses from those who had experienced conspiracy theories in their schools. Interestingly, the types of response relating to opening up the discussion are even higher among those who have actually dealt with conspiracy theories, whereby 52% said they had asked students to explain their beliefs, compared to 42% who supported this as a general proposition. The option to open it up to class discussion was slightly higher at 45% than the general response of 42%. Explicit planned teaching about conspiracy theories was still rather low, even when students were raising the issue, and fewer than 10% said they had taught about conspiracy theories in general or specifically about the theories being raised by students. The proportion of teachers saying that they had tried to prove the conspiracy theory wrong was significantly higher than in the first phase suggesting that, in the moment, teachers may be getting drawn into this teaching response. Whereas 14% of secondary teachers suggested that this would be a good idea in general, 30% of those confronted by the issue reported that they had tried this. This was also the option with the biggest gender difference, with 33% of male respondents reporting that they had tried this approach, compared to 21% of female respondents.

We explored whether these responses were correlated with school and teacher variables, this time using the raw data rather than the weighted results. Although the overall figures were low, women were more likely than men to plan specific lessons about conspiracies being mentioned by students ($p=0.049$). Younger teachers were more likely to close down the conversation ($p<0.001$), suggesting that this may be through lack of confidence than judgement. And when it came to the reality of referring students as a potential safeguarding risk, this was more likely to be adopted as a course of action among younger teachers, those with less teaching experience, women, teachers in state schools and those in deprived schools (29% in Q4 vs 17% in Q1, $p<0.019$).

We also asked teachers about their levels of confidence in their ability to deal with these issues, and what types of concerns they may experience. Figure 5 demonstrates that most teachers fall in the middle of our scale in terms of confidence, with relatively few feeling very confident, or completely lacking confidence. The only difference between phases is that

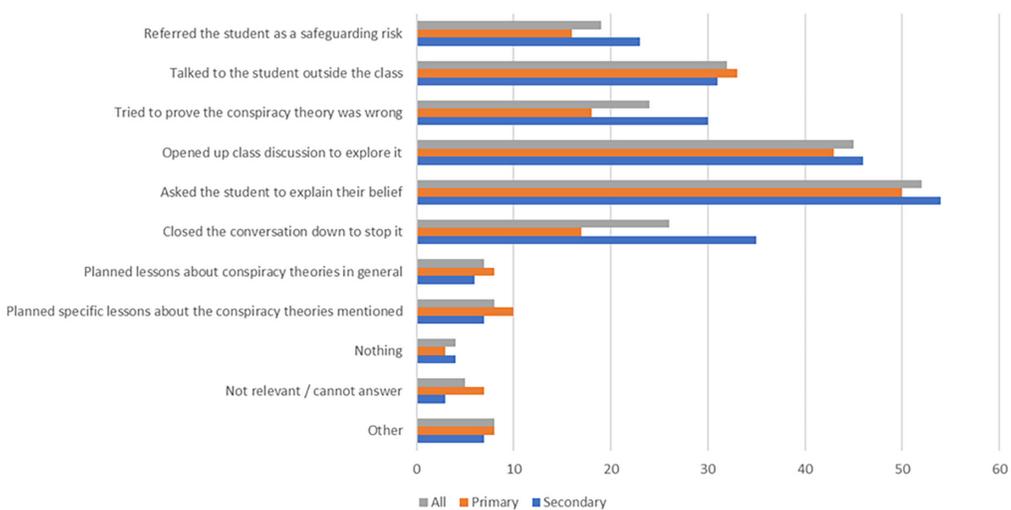


FIGURE 4 What have you personally done in response to hearing students mention conspiracy theories? 3097 teachers responding.

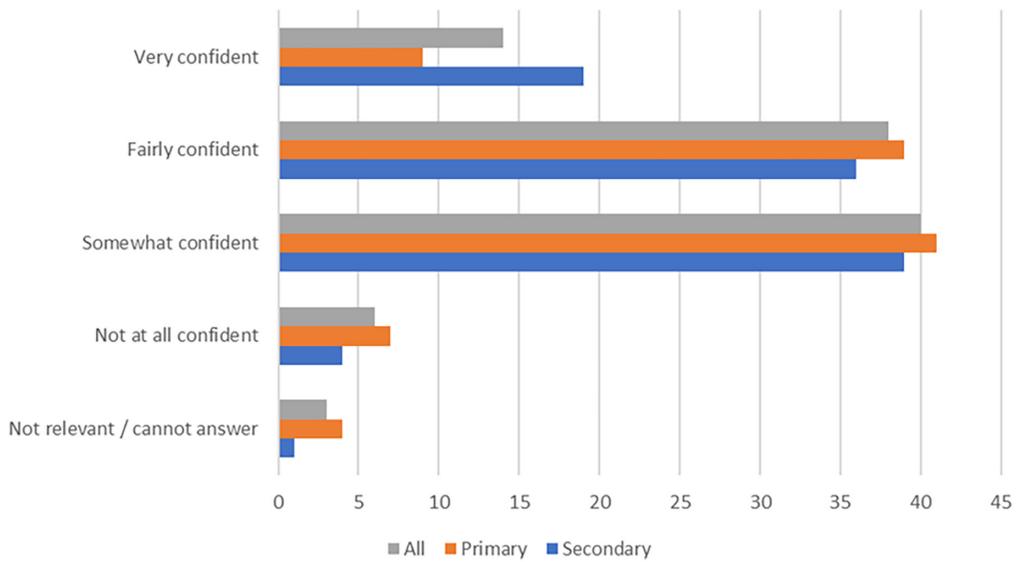


FIGURE 5 How confident have you generally felt to respond when students mentioned conspiracy theories? 3129 teachers responding.

19% of secondary teachers report feeling very confident, whilst only 9% of primary teachers agree. This is possibly related to two other factors: 26% of men reported feeling very confident compared to only 10% of women (and women are more likely to teach in primary), and only 2% of Early Years/Key Stage 1 practitioners said they were very confident, compared to 10% of Key Stage 2 teachers.

In order to explore this issue of confidence further, we calculated the mean number of conspiracy theories mentioned by each secondary teacher to explore whether this would be connected to the level of confidence. Table 3 suggests that there is a small but significant relationship between teacher confidence and the number of general conspiracy theories arising, with a Pearson correlation coefficient of 0.099 ($p < 0.001$). Confidence levels were also slightly higher for older teachers than younger ones, and senior leaders than class teachers. However, there were no differences between schools based on levels of deprivation or private/state school status.

Figure 6 reports the data about the kinds of concerns that worry teachers when they are weighing up their options. There are a variety of concerns ranging from capacity, strategy and fear. In relation to capacity, many teachers reported a lack of knowledge (47%). In relation to strategy, many were concerned that opening up the issue may help to spread the ideas (46%) and reinforce them for the individual who raised the issue (38%). And in relation

TABLE 3 Mean number of conspiracies* encountered by secondary teachers and levels of confidence.

	Number of general conspiracies mentioned	Number of COVID conspiracies mentioned
Not at all confident	1.34	2.89
Somewhat confident	1.8	2.7
Fairly confident	1.86	2.68
Very confident	2.15	2.77
Total	1.86	2.71

*The survey included eight named options for each category.

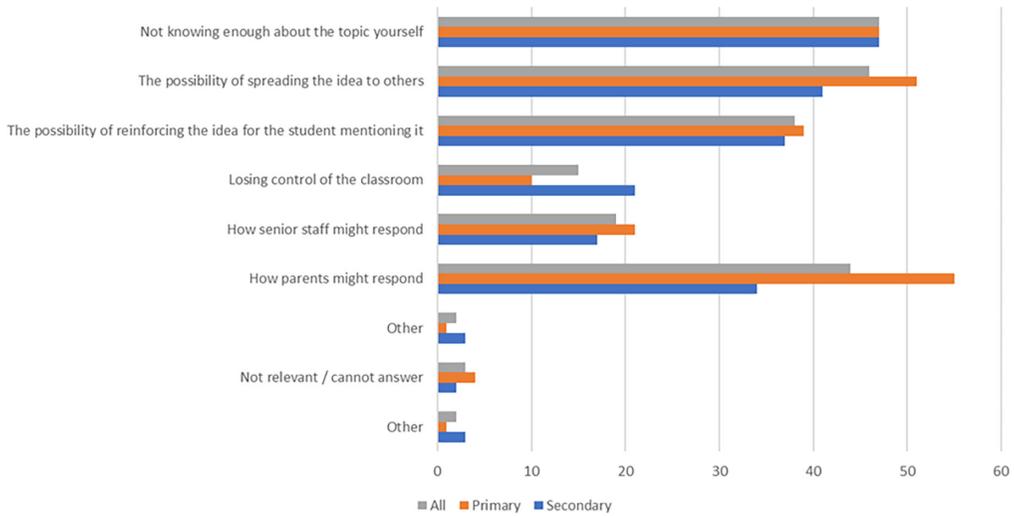


FIGURE 6 When deciding how to respond, have you felt worried about any of the following? 3119 teachers responding.

to fear, 44% were concerned about parents' response, although there was a marked difference between phases, with 55% of primary teachers expressing this concern, compared to 34% of secondary teachers.

Finally, we asked teachers how successful they felt their responses had been. Figure 7 shows the main results and clearly indicates that teachers are far from confident that they have strategies that work. Very few (only 2%) said that they had a negative impact, but 13% said they had no affect and 35% said they had achieved mixed results, suggesting that in these instances at least some students had been unaffected or adversely affected. Only 17% felt that they had achieved positive results, and more simply did not know. We compared teachers' judgements of success against the types of response they used, which strongly suggests that there is no consensus about what might work best, and teachers are expecting similar results, despite using very different approaches.

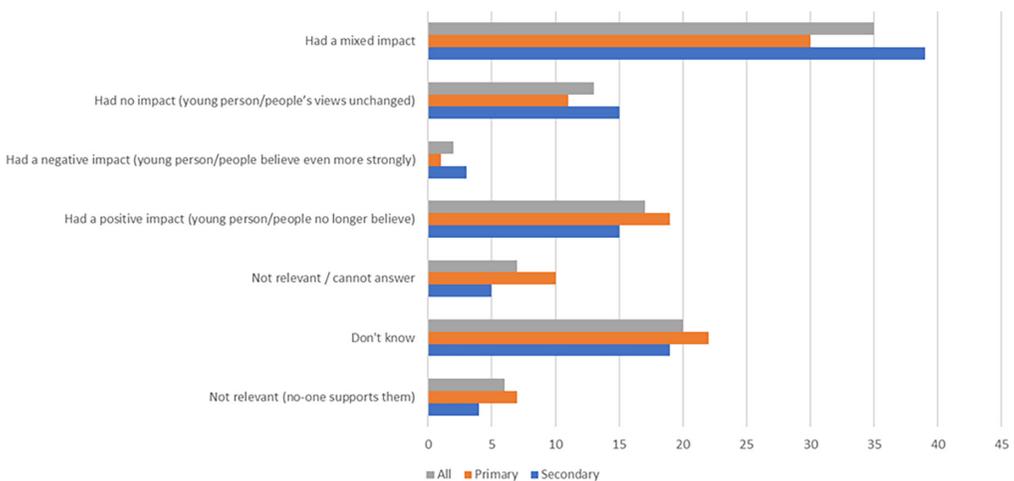


FIGURE 7 What impact do you think you have had? 7672 teachers responding. 3082 teachers responding.

DISCUSSION AND CONCLUSION

Our discussion of the literature indicated no clear consensus about what teachers should do, and no clear evidence about what might work for the best. The data set out in this article support the idea that there is no consensus between teachers about what to do, and no clear criteria for choosing between what are in effect incompatible strategies (e.g., opening up or closing down conversations). The teachers in this survey had equally high levels of self-belief in all the strategies, which reflects the contradictory nature of the guidance available to them. This also means that students who mention conspiracy theories are experiencing very different responses. The literature indicates that different responses are likely to lead to different outcomes, which suggests that in some classes there may be unanticipated negative side-effects. This appears to be borne out by the teachers' own evaluations of their teaching, which demonstrates that they do not feel confident they are having a positive impact.

Against this backdrop of a broad range of approaches being adopted by teachers, it is significant that they are more likely to argue with conspiracies when confronted with them, than they expect to do when thinking about conspiracy theories in general terms. This needs to be understood in the context of the evidence for unintended side-effects in reinforcing beliefs. An unprepared teacher, constructing an off-the-cuff argument, is unlikely to improve the situation because of the closed mindset that often accompanies conspiracy theories, reflecting the tautological nature of such beliefs. This is associated with the backfire and bolstering effects for those who already believe a conspiracy theory, and also risks further disseminating the ideas to others by giving them some form of legitimacy in the classroom (Berman & Stoddard, 2021).

The relatively high numbers of teachers who say they are referring students to others because of disclosures about conspiracy theories suggests that educational strategies may be being displaced (or complemented) by 'safeguarding' or 'securitised' responses. This echoes the evidence in relation to the Prevent Duty, where teachers are required to report concerns about students being drawn into extremist thinking to designated safeguarding leads in school, and potentially to Channel Panels (Busher & Jerome, 2020). The referrals data show that, whilst most referrals to Channel are related to Islamism or far-right concerns, the number of 'unspecified' or 'mixed' referrals is growing year on year (Home Office, 2023). In thinking about the distinction between educational versus safeguarding approaches, our data show that fewer teachers actually plan lessons to explicitly tackle conspiracy theories in any way, which suggests that they are more likely to respond in the moment or refer students on to others as a potential security concern. This also suggests that proactive strategies like 'pre-bunking' are unlikely to be widespread.

As this article has discussed, the proliferation of fake news, particularly online, is a significant problem. Social media companies have been criticised for failing to deal adequately with false information online, with the algorithms used to tailor stories to users' particular interests having the effect of creating echo chambers, reinforcing users' pre-existing viewpoints in a closed system, insulated from information and perspectives that may challenge their beliefs. However, there is no simple technological fix to the spread of conspiracy theories online. Education has an important role to play in helping young people develop their political literacy, media literacy and critical thinking skills, with students learning how to distinguish fact from fiction and understanding the importance of pausing to reflect before sharing a story online (Jerome & Moore, 2023). Moreover, teachers need adequate training themselves in political and media literacy. Schools could consider running special events on the topics of misinformation, disinformation and fake news. They could work with others with expertise in this area who could contribute to classes aimed at promoting political and media literacy, such as university staff and journalists. However, as Hayward et al. (2022) argue, teachers ought to give serious consideration

to the management of discussions relating to conspiracy theories, including planning appropriate lessons. They should also consider the idea that it is sometimes necessary to close down classroom conversations when they involve such theories—what they refer to as ‘quietening’. There are various grounds for doing this, such as the prevention of harm to others, avoiding discussions that distract from learning goals and forestalling the ‘backfire effect’ highlighted earlier, whereby an individual’s perspective can actually be strengthened rather than weakened when presented with information that contradicts it. Whilst the burden of explicit teaching might be expected to fall on those teachers in whose lessons such issues occur most frequently (e.g., English and Humanities), our data suggest that all teachers should be prepared to deal with such issues.

To conclude, we argue that there is a powerful case for teachers to be involved in combatting conspiracy theories, but that they are currently poorly placed to make an effective contribution and therefore there is a need for further research and professional development. In relation to the case for teachers’ role, we are aware that, in England, government guidance reminds teachers of their legal duty to be impartial in discussing political issues, but it also reiterates that this does not mean teachers have to give equal weight to opposing views, rather that they should expose all views to equal critical analysis, and hold all opinions to the same level of rational argumentation. This suggests that teachers cannot avoid being embroiled in these issues, especially when conspiracy theories are so ubiquitous. More importantly, there are powerful educational reasons for requiring teachers to take action when confronted with conspiracy theories. Many of these conspiracy theories are racist or fuel hatred towards ‘out groups’, and so teachers need to have strategies to intervene when they encounter them in school, in order to promote equality and social justice and ensure the school functions as an inclusive environment. And the fact that conspiracy theories are underpinned by a form of ‘crippled epistemology’ also suggests that teachers should be concerned with challenging them and developing better approaches to building knowledge. Finally, from the perspective of education for democratic citizenship, it is also important to note that conspiracy theories seem to be at odds with genuine political thinking, as systemic or institutional factors are often flattened into inter-personal malign intentions, meaning adherents give accounts of political phenomena that are essentially de-politicised.

Our data clearly demonstrate that teachers are not sufficiently well equipped with effective strategies. One response is to call for further research, by which we mean both qualitative and quantitative research with teachers and young people. We need to understand more about how conspiracy theories circulate in schools and how young people engage with them. We also need to better understand what teachers do, why and with what impact. It is highly likely that different strategies will have different impacts on different students, and this initial glimpse into educational practice tells us nothing about this. But the issue is sufficiently urgent that we also think there is important professional development work to be done to ensure that teachers are at least better informed about the small evidence base that does exist, and are therefore helped to make decisions about the risks involved in teaching in this area.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to declare.

DATA AVAILABILITY STATEMENT

Research data are not shared.

ETHICS STATEMENT

The research was approved by the Research Ethics Education Sub-Committee at Middlesex University.

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ENDNOTES

ⁱIn terms of statistical reliability, a 95% confidence interval for an estimate of one-half would be $\pm 1.1\%$ for a sample size of 7690 and $\pm 1.8\%$ for 3148.

ⁱⁱ94% of the 3149 teachers who continued to phase 2, expressed as a percentage of the whole sample.

ⁱⁱⁱThe figures reported here have generally been weighted to reflect the national teaching and school population, according to Teacher Tapp's reporting protocols. Where further analysis has been conducted on the raw figures, we indicate this in the text.

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APPENDIX: QUESTIONS ASKED IN TEACHER TAPP 22/24 AUGUST 2022 A

Phase 1: Q1–Q3 were asked on 22 August 2022

1. Which of these general conspiracy theories have your students mentioned over the past two school years? (examples include moon landings faked, 9/11 was an inside job).
2. Which of these COVID-related conspiracy theories have your students mentioned since the COVID pandemic started? (examples include link to 5G networks, created in a lab).
3. In general, what do you think teachers should do when students mention conspiracy theories?

Phase 2: The following questions were only asked to teachers who said the students had mentioned at least one conspiracy theory in the past two years, and were posed on 24 August 2022

4. How frequently have you encountered students talking about conspiracy theories over the past two years?
5. Where have you heard students mention conspiracy theories?
6. How confident have you generally felt to respond when students mentioned conspiracy theories?
7. When deciding how to respond to students mentioning conspiracy theories, have you felt worried about any of the following? (examples include concerns about own knowledge, colleagues' reaction, attitudes of parents etc).
8. What have you personally done in response to hearing students mention conspiracy theories?
9. If you have had one or more students who expressed support for conspiracy theories, what impact do you think you have had on them?