



RESEARCH ARTICLE

# Achieving the 'ideas-informed' society: results from a Structural Equation Model using survey data from England

## [version 1; peer review: awaiting peer review]

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### Abstract

**Background:** Democratic societies thrive when citizens actively and critically engage with new ideas, developments and claims to truth. Not only can such practices result in more effective choice-making, but they can also lead to widespread support for progressive beliefs, such as social justice. Yet with western societies in the midst of environmental, social and political crises, it seems more pertinent than ever that citizens become 'ideas-informed'.

**Methods:** Drawing on a survey of 1,000 voting age citizens in England, this paper aims to provide insight into the following: 1) the current 'state of the nation' in terms of whether, and how, individuals keep themselves up to date with regards to new ideas, developments and claims to truth; 2) the impact of staying up to date on beliefs such as social justice; 3) the factors influencing people's propensity to stay up to date, their support for value-related statements, as well as the strength of these influencing factors; and 4) clues as to how the extant 'state of the nation' might be improved.

**Results:** our findings indicate that many people do keep up to date, do so in a variety of ways, and also engage with ideas as mature critical consumers. There is also strong importance attached by most respondents to the values one would hope to see in a progressive and scientifically literate society. Yet, as we illustrate with our Structural Equation Model, there are a number of problematic network and educational related factors which affect: 1) whether and how people stay up to date; and 2) the importance people ascribe to certain social values, irrespective of whether they stay up to date or not.

**Conclusions:** suggestions for the types of social intervention that might foster 'ideas-informed' democracies (such as improved dialogue) are presented, along with future research in this area.

### Open Peer Review

**Approval Status** *AWAITING PEER REVIEW*

Any reports and responses or comments on the article can be found at the end of the article.

### Keywords

ideas-informed, Ideas-informed societies, education and society, social networks, media, democracy, social values, keeping up to date



This article is included in the [Fairer Society gateway](#).

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## Introduction

It has long been suggested that thriving democratic societies depend upon being ideas-informed: i.e., on their citizens actively and critically engaging with new ideas, developments and claims to truth, as well as debating the merits and disadvantages of these with others (including those holding differing opinions) (Brown & Luzmore, 2021). We can trace such beliefs back to at least 375BCE where, in *The Republic*, Plato, describes a hypothetical utopian state in which citizens are armed with the knowledge and aptitudes required to interrogate the basis for public decisions (Plato, 375BCE/2007). Likewise, in *The Politics*, Aristotle outlines the importance of citizens exchanging and discussing new ideas if they are to achieve a state of morally just conduct (Aristotle, 350BCE/1992). We also witness similar ideas emerging during the renaissance, with *humanist* thinkers establishing the need for citizens to be able to think rationally and speak with eloquence and clarity if they are to engage fully in civic life, as well as persuade others towards virtuous and prudent action (More, 2012; Petrarca, 2008). During the enlightenment, these perspectives were incorporated within a move towards rational scientism: with scholars such as John Locke and Francis Bacon advancing the opinion that analysing and reflecting on empirical knowledge is vital for improving humankind's lot in life (e.g. Bacon, 1628/2008). Finally, in the modern day, we also have perspectives such as the Habermasian notion of the *public sphere* - a space in which societally relevant ideas are formulated, negotiated and distributed, with the result that the actions of ruling authorities are guided and controlled by consensus (Habermas, 1989; Habermas, 1999; Sunstein, 2002); the argument put forward by Latour (1987), that public engagement with scientific, technological and innovative developments are a vital foundation for cumulative scientific progress (also see Pinker, 2018); and the thoughts of public intellectuals, such as de Botton, Freire, Pinker, Saviano and Sen, who contend that the engagement by citizens with ideas, developments and truth claims, is essential if they are to be both able to make effective choices, and supportive of progressive beliefs related to social equity or movements towards environmental protection (de Botton, 2002; de Botton, 2014; Freire, 2017; Pinker, 2021; Pinker *et al.*, 2019; Saviano, 2010; Sen, 2002).

Yet, despite this well-established consensus, recent trends and events across the UK, US and many countries in Europe (as well as elsewhere) would appear to suggest a pivot away from this ideal type of 'idea informed' democratic society. For instance, many commentators suggest we are currently living in a *post-truth* world (e.g. D'Ancona, 2017). Here, verifiable facts are both debated and subjected to interpretation. Post-truth has been facilitated by *Web 2.0*: the second stage of development of the internet, which brought with it a new age of dynamic and often user-generated content and the growth of social media. While Web 2.0 was initially greeted with the optimistic belief that this new form of internet would usher in a world of plurality, collaboration and the sharing of knowledge, what we have actually seen is a splintering of consensus and the emergence of echo chambers: spaces where those of similar views come together and where outsiders are dismissed as 'trolls', ensuring entrenched perspectives are safe from challenge

(Brown & Luzmore, 2021; D'Ancona, 2017). Web 2.0 related trends have produced a number of pernicious impacts, including: 1) making problematic social progress in a number of areas, ranging from racism and sexism, to achieving balanced discussion related to transgender issues and rights (Brown & Luzmore, 2021; Griffin, 2021; Konadu & Gyamfi, 2021); 2) hampering efforts to bring the Covid 19 pandemic under control, with conspiracy theorists, and vaccine (and facemask) refuseniks all boosted by having their views amplified (Brown, 2021); 3) presenting challenges to scientific progress, with climate change deniers, conspiracy theorists and flat earthers, amongst others, seeking to problematise scientific fact (Brown, 2021); and 4) social-democratic issues, such as the storming of the US Capitol in January 2021 and the growth in movements such as 'incel' (young men describing themselves as "involuntarily celibate") (Blue, 2021; Lambert, 2021).

So how might we account for the gap between the ideal and the real? For Pinker (2021), citizens will only actively and critically engage with ideas, developments and claims to truth if there exist social norms that are geared towards objectivity and progress. Such norms both depend on members of society updating themselves in an optimal way, while also, simultaneously, driving this process. With this paper, we take Pinker's notion of 'optimality' to equate to a situation in which individuals both constantly and interactively (i.e. through dialogue with others) keep themselves up to date with ideas, developments and truth claims. We also assume, in keeping with thinkers such as Aristotle (1992), (de Botton, 2002; de Botton, 2014), Freire (2017), More (2012), (Pinker, 2018; Pinker, 2021), Sen (2002) (and so on), that a positive relationship exists between citizens actively and critically keeping themselves up to date in this way, and the development of societal consensus towards, and the advancement of, socially optimal ideas and concepts. For instance: 1) the need to protect the environment and prevent human led climate change; 2) the importance of equality and inclusion; 3) the need for individuals to actively take steps to ensure their physical and mental health is not jeopardised, and so on. These assumptions are not unproblematic of course - they rely on individuals both existing in open networks and being critical consumers: those who seek to triangulate various ideas, developments and truth claims and who problematise their interpretation for veracity (as well as accept challenge from others). Nonetheless we believe we adequately address these potential issues, with our approach for doing so set out further below.

## Research questions

With the above context in mind, the aim of this paper is to provide insight into the following: 1) the current 'state of the nation' in terms of whether and how individuals keep themselves up to date. For the purpose of the study we have operationalised the notion of 'ideas, developments and truth claims' as equating to staying up to date with regards to news, current affairs and new developments (such as, political, economic and scientific developments); 2) the impact of staying up to date on beliefs, such as those relating to the idea of social justice; 3) the factors influencing people's engagement in news, current affairs and new developments, their support for value related

statements, as well as the strength of these influencing factors; and 4) clues as to how the extant ‘state of the nation’ might be improved. We do so by addressing the following research objectives:

- **RO1:** To provide a descriptive account of: i) how important voting age citizens in England believe it is to stay up to date; ii) the methods they use to do so, and iii) the extent to which they support values, such as the value of living in a tolerant society.
- **RO2:** To explore whether a relationship exists between individuals staying up to date and their support for value related statements, such as the value of living in a tolerant society.
- **RO3:** To explore what individual-level and socially mediated factors influence whether and how individuals stay up to date, as well as their support for value related statements.
- **RO4:** Use the findings from RO1-3 to suggest ways of closing the gap between the ideal democratic situation and the current state of play many countries in the West currently find themselves in.

## Methods

### Ethics

Ethical approval for this project and the survey questionnaire employed was given by the Durham University School of Education’s ethics committee. All research was undertaken with the full written informed consent of participants.

To address each of RO1-RO4 we employed a survey approach. Our criteria for the survey sample were that 1) it should be nationally representative of England based on age (18+), gender, socio-economic group and geographic region; and 2) it should comprise at least 1,000 respondents (since we wanted to undertake analysis that would still be statistically significant once we started to explore various sub-groups). To achieve a sample of this nature we used the panel survey approach, which involves recruiting members to a panel, with potential respondents confirming their interest in taking multiple surveys over an extended period of time. Rather than create our own panel, we opted to utilise an existing member panel: with our sample recruited via the market research polling firm Bilendi. Bilendi recruits members to its panel using multiple online sources including the following:

1. Search engine optimisation approaches to attract ‘walk in’ traffic
2. Pay-Per-Click link throughs
3. Online display advertising
4. Direct emails
5. Social media advertising
6. Social influencers
7. Brand loyalty partnerships

To receive surveys, Bilendi members create an account and in doing so provide a full range of socio-demographic information

to ensure surveys are targeted appropriately. Panel members can be contacted up to three times a day, and as a reward for survey completion, members receive ‘points;’ with these points subsequently be exchanged for products. It is up to panel members as to whether they complete a survey or not; should a panel member decide not to take part, an equivalent replacement is contacted instead. The survey was completed by 1,000 Bilendi panel members of voting age plus, between 29<sup>th</sup> July to 4<sup>th</sup> August 2021. The final survey was representative within a maximum 5 percent +/- variation) and the data provided by Bilendi was weighted to account for any variation that might occur based on age, gender, socio-economic group and geographic region.

### Developing the survey items

Survey items were developed in relation to the dependent, independent and descriptive variables outlined in Table 1, below. The actual survey used in this study can be found as *Extended data* (Brown & Groß Ophoff, 2022). Items were informed by a review of extant literature. Where this literature was empirically based, we attempted, where possible, to adopt the questions and scales used by these studies. When the literature was non-empirical, we identified key ideas and themes from these papers and used these to develop survey question items. The research team also brainstormed other possible reasons that might influence the importance respondents attribute to staying up to date and the extent to which values – such as the value of living in a tolerant society – are supported. Survey question items were then also developed to represent these ideas.

After developing our survey, in order to reduce the likelihood of measurement error, the research team then completed a two-stage review process. The first stage involved two rounds of *ex ante* item review (item pretesting). In the first round, we made use of Graesser *et al.*’s (2006) *Question Understanding Aid* web-based program, which takes individual questionnaire items as input and returns a list of potential problems, including unfamiliar technical terms, unclear relative terms, vague or ambiguous noun phrases, complex syntax, and working memory overload. As the program itself is solely diagnostic, the research team systematically screened the output for each item as a team and determined any necessary revisions. In the second round, we used Willis & Lessler’s (1999) *Questionnaire Appraisal System* to individually screen each questionnaire item for any further problems, such as with instructions and explanations, clarity, assumptions made or underlying logic, respondent knowledge or memory, sensitivity or bias, and the adequacy of response categories. Here the research team compared individual findings and determined whether any additional changes were necessary. For the second stage, two of the paper authors (KC and SP, publishers with Emerald Publishing) tested the survey with Emerald Publishing employees. Here, respondents were asked to work their way through the questionnaire and describe what they thought each survey item was asking them to consider. Respondents were also asked to highlight any language or comprehension issues.

### Analysis

To address RO1-3, we undertook descriptive analysis and constructed a Structural Equation Model. Data analysis was based

**Table 1. Study variables and survey items.**

Variable type	Variable subject and reason for inclusion	Question(s)	Response options
Dependent variable	<p><i>Value statements associated with a progressive tolerant society</i></p> <p>To enable the research team to determine the extent to which respondents support values - such as the value of living in a tolerant society - and the factors influencing this support.</p>	<p>How important are each of the following topics to you?:</p> <ul style="list-style-type: none"> <li>Living in a society that is just, inclusive and embracing of all without any barriers to participation based on sex, sexual orientation, religion or belief, ethnicity, age, class or ability.</li> <li>Supporting physical and mental health, that of yourselves and others.</li> <li>Seeing corporations and businesses adopt more ethical, responsible and sustainable ways of working</li> </ul>	<p>Four-point Likert scale, ranging from 'Not important' to 'Very important'.</p>
Dependent/ independent variable	<p><i>The importance respondents attribute to staying up to date</i></p> <p>To enable the research team to determine the importance respondents attribute staying up to date and the factors influencing levels of importance.</p>	<p>How important is it to you to keep up to date with news, current affairs and new developments (such as political, economic and scientific developments)?</p>	<p>Four-point Likert scale, ranging from 'Not important' to 'Very important'.</p>
Independent variable	<p><i>Highest level of qualification</i></p> <p>In other studies (e.g. Putnam, 2000) level of education has been found to be positively associated with more general civic participation. For this project, inclusion of this variable will enable the research team to explore the extent to which level of education influences the dependent variables above.</p>	<p>Please select your highest level of education</p>	<p>Choice of:</p> <ul style="list-style-type: none"> <li>High School Diploma/School level qualifications</li> <li>Bachelors Degree</li> <li>Post Graduate Certificate or Diploma</li> <li>Masters Degree</li> <li>Doctoral Degree</li> <li>No formal qualifications</li> <li>Other (please specify)</li> </ul>
Independent variable	<p><i>Occupation</i></p> <p>There is conflicting evidence in terms of whether type of employment positively or negatively influences more general civil participation (e.g. Gershuny &amp; Sullivan, 2019; Lorenzini &amp; Guigni, 2012; Putnam, 2000). In this instance, inclusion of this variable is to enable the research team to explore the extent to which occupation type influences the dependent variables above.</p>	<p>Which of the following best describes your occupation?</p>	<p>Choice of:</p> <ul style="list-style-type: none"> <li>Higher-level professional (e.g. Lawyer, Architect, Medical doctor, Chief executive, Economist)</li> <li>Professional (e.g. Social worker, Nurse, Journalist, Retail manager, Teacher)</li> <li>Intermediate professional (e.g. Armed forces (to sergeant), Paramedic, Nursery Nurse, Police [to sergeant], Bank staff)</li> <li>Small employer or own account worker (e.g. Farmer, Shopkeeper, Taxi driver, Driving instructor, Window cleaner)</li> <li>Semi-routine role (such as Traffic warden, Receptionist, Shelf-stacker, Care worker, Telephone Salesperson)</li> <li>Routine role (e.g. Bar staff, cleaner, labourer, Bus driver, Lorry driver)</li> <li>Never worked/long-term unemployed</li> <li>Full time student</li> </ul>

Variable type	Variable subject and reason for inclusion	Question(s)	Response options
Independent variable(s)	<p><i>Network and social-related drivers for staying up to date:</i></p> <p>Network-related social influence impacts on the choices of individuals (e.g. Berger, 2016; Christakis &amp; Fowler, 2010; Jackson, 2019). As such, these variables enable the research team to explore the impacts on the dependent variables of respondents engaging in discussions about current affairs (etc.) within and outside of the home; also, any impact associated with homophilic networks and communities (e.g., those in which similar political opinions are shared).</p>	<ul style="list-style-type: none"> <li>How often do you discuss news, current affairs and new developments (such as political, economic and scientific developments) with:                             <ol style="list-style-type: none"> <li>Friends; and</li> <li>Colleagues?</li> </ol> </li> <li>Do your friends share the same political views as you?</li> <li>Do your friends have the same level of qualifications as you?</li> <li>Live in the same neighbourhood as you?</li> <li>Have the same occupation type as you?</li> </ul>	<p>For the first of these questions, respondents were asked to select according to a six point frequency scale, ranging from 'Once a day or more' to 'Never' (with 'N/A' also an option).</p> <p>The remaining four questions utilised a five point scale, ranging from 'All do' to 'None do' (with 'Don't know' also an option).</p>
Independent variable	<p><i>Ways of staying up to date - Sources and frequencies</i></p> <p>To enable the research team to explore exactly how respondents keep up to date with news, current affairs and new developments.</p>	<p>Please indicate the extent to which you do the following:</p> <ul style="list-style-type: none"> <li>Watch news programmes or channels (on your TV, laptop or other device)</li> <li>Listen to audio news programmes or channels (on your radio, phone or other device)</li> <li>Listen to audio news podcasts (on your radio, phone or other device)</li> <li>Read newspapers (physical copies or online)</li> <li>Visit news websites</li> <li>Use social media and blogs for news content</li> <li>Use social media and blogs to see people's opinions on news, current affairs or new developments</li> </ul>	<p>Six-point frequency scale, ranging from 'Once a day or more' to 'Never' (with 'N/A' also an option).</p>
Independent variable	<p><i>Ways of staying up to date - Sources and frequencies</i></p> <p>To enable the research team to explore how respondents keep up to date with news, current affairs and new developments.</p>	<p>And more generally, approximately how often do you:</p> <ul style="list-style-type: none"> <li>Read popular science magazines (such as New Scientist, Discover or National Geographic)</li> <li>Read current affairs magazines (such as The Economist, Time Magazine or the New Yorker)</li> <li>Read professional magazines (such as Harvard Business Review)</li> <li>Read professional journals (for example, those with research articles, reports, and practical articles applicable to your profession)</li> <li>Read books relating to news, current affairs or new developments</li> <li>Watch YouTube, TedX or similar videos to engage with perspectives on political, economic, or scientific developments, research findings or other topics</li> </ul>	<p>Six-point frequency scale, ranging from 'Once a week or more' to 'Never' (with 'N/A' also an option).</p>

Variable type	Variable subject and reason for inclusion	Question(s)	Response options
<p>Descriptive variables</p> <p>To enable the research team to explore the extent to which certain content attributes/qualities influence what people consume when seeking to stay up to date.</p>	<p><i>What influences how respondents stay up to date</i></p> <ul style="list-style-type: none"> <li>• The rigour of the analysis provided</li> <li>• The entertainment value of the content (e.g. if a polemic, controversial or argumentative approach is used)</li> <li>• Whether the content exposes you to new ideas or perspectives</li> <li>• Whether you are presented with a range of views</li> <li>• Whether an in-depth explanation of the issues is provided</li> <li>• Whether you are provided with a quick and simple update</li> <li>• Whether the analysis mirrors your own worldview</li> </ul>	<p>For each of the sources selected above, to what extent is the following important:</p>	<p>Four-point Likert scale, ranging from 'Not important' to 'Very important':</p>
<p>Descriptive variables</p>	<p><i>Other socio-demographic variables</i></p>	<p>Age, gender, region, social grade, household income, region, ethnic group/background</p>	<p>Pre-defined categories</p>

on Latent Structural Equation Modeling (Mplus Version 8; Muthén & Muthén, 2017). For the evaluation of model fit, different fit-indices were used (Geiser, 2010; Marsh *et al.*, 2004; Moosbrugger & Schermelleh-Engel, 2012), such as RMSEA < .080 and CFI > .900 indicating an acceptable fit, and RMSEA < .050 and CFI > .970 indicating a good model fit. As a first step, measurement models for items of the same topic (e.g., the frequency use of information sources, the importance of values, measures of cohesion) were developed via exploratory factor analysis (EFA). Next, the emerging latent factor structure was applied to confirmatory measurement models (CFA), which in turn were used in the comprehensive structure model. This type of two-step procedure avoids interpretational problems of the path model due to misspecifications in the measurement model (Kline, 2015). Other items, for example opinions regarding the importance of keeping-up to-date or how often people discuss current topics with their friends or colleagues were treated as single-item measures, and so suitable for less complex or narrow constructs (Bergkvist & Rossiter, 2007; Loo, 2002). As such, these items were modelled as observed or manifest variables in the structure of the model. The resulting regression coefficients (see Table 6) thus provide information about the effect of the predictor variables on the criterion variables.

#### Findings from the descriptive analyses

We address RO1 by presenting descriptive analyses of the survey data. To begin with, as shown in Table 2, the vast majority

of those surveyed (70.7%) view staying up to date with new ideas (i.e. news, current affairs & new developments) as important or very important. At the same time this still leaves sizable chunk of the population (13%) active, regarding staying up to date as unimportant, with a similar amount (16%) seemingly ambivalent. Overall, then, almost a third of the population do not see any need to stay up to date.

In terms of how respondents stay up to date, as Table 3 highlights below, more traditional media channels appear to be most popular. For instance, most respondents (81.1%) frequently watch news programmes or channels (with 56.2% watching once a day or more); while nearly three quarters (74.9%) frequently use news websites. The exception is physical newspapers which are frequently read by three fifths of respondents: this stands at a similar level to social media and blogs (frequently used by 59.4% of the population to stay up to date and by 57.5% of respondents to gauge the opinion of others in relation to new ideas). News podcasts are the least popular means of staying up to date, however, and are actually not used at all by 41.9% of respondents. We also asked respondents about the extent to which they used other means to stay up to date, such as read popular science magazines (such as *New Scientist*, *Discover* or *National Geographic*) or watch *YouTube*, *TedX* or similar videos to engage with ideas and developments. As can be seen in Table 4, quite often such sources are never or infrequently used. Least popular were professional magazines

**Table 2. The importance of keeping up to date.**

Question	Not important	Somewhat important	Neither	Important	Very important	M(SD)
How important is it to you to keep up to date with news, current affairs & new developments?	3.1%	9.9%	16.2%	43.1%	27.6%	3.8 (1.04)

**Table 3. How respondents stay up to date.**

Question: please indicate the extent to which you do the following:	Never	Once or twice a year	Every few months	Once a fortnight	Once a week or more	Once a day or more
Watch news programmes or channels (on your TV, laptop or other device)	5.5%	3.7%	5.2%	4.5%	24.9%	56.2%
Listen to audio news programmes or channels (on your radio, phone or other device)	22.8%	4.4%	7.2%	8.4%	24.8%	32.5%
Listen to audio news podcasts (on your radio, phone or other device)	41.9%	5.3%	6.3%	6.9%	18.3%	21.3%
Read newspapers (physical copies or online)	19.8%	4.2%	8.5%	7.5%	26.5%	33.5%
Visit news websites	9.4%	2.4%	6.2%	7.2%	25.7%	49.2%
Use social media and blogs for news content	26.2%	2.5%	4.7%	7.3%	19.1%	40.3%
Use social media and blogs to see people's opinions on news, current affairs or new developments	26.5%	3.2%	5.9%	6.9%	21.4%	36.1%



(such as *Harvard Business Review*): with 68.6% of respondents never engaging with this type of content at all. Alternatively, watching YouTube, TedX or similar videos was most popular of this second type of content source, albeit with only 29% of respondents using such videos frequently.

Finally, in terms of staying up to date, we asked respondents to use a five-point scale (ranging from 'Not important' to 'Very important') to indicate how important the following content attributes/qualities were to them when seeking to stay up to date:

- The rigour of the analysis provided
- The entertainment value of the content (e.g. if a polemic, controversial or argumentative approach is used)
- That the content exposes you to new ideas or perspectives
- That you are presented with a range of views
- That an in-depth explanation of the issues is provided
- That you are provided with a quick and simple update
- That the analysis mirrors your own worldview

Analysis of these responses shows that, for the media channels presented in [Table 3](#), 'the rigour of the analysis provided' and 'that you are presented with a range of views' were deemed to be most important. Here, respondents gave a mean score across all media types in the region of 3.4 to 3.6 for both responses, with the standard deviation for responses ranging from 1.0-1.1. Least important was that the 'that the analysis mirrors your own worldview' (means score of 3.0 to 3.1 across all media type, with a standard deviation of between 1.0-1.1). For the media channels presented in [Table 4](#), 'the rigour of the analysis provided' and 'that an in-depth explanation of the issues is provided' were deemed to be most important: respondents giving a mean score across all media types in the region of 3.6 to 3.7 (with the standard deviation for responses ranging from 1.0-1.1). Again, least important was 'that the analysis mirrors your own worldview' (means score of 3.1 to 3.2 across all media type, with a standard deviation of between 1.0-1.1).

As well as staying up to date, we asked respondents to indicate the importance they ascribe to the types of value statement associated with a progressive tolerant society. As can be seen in [Table 5](#), all three statements were seen as somewhat or very important by the vast majority of respondents. Nonetheless, just over a fifth of respondents (20.8%) regarded living

**Table 4. How respondents stay up to date (additional sources).**

Question: approximately how often do you:	Never	Once or twice a year	Every few months	Once a fortnight	Once a week or more	Once a day or more
Read popular science magazines (such as <i>New Scientist</i> , <i>Discover</i> or <i>National Geographic</i> )	52.5%	12.1%	11.8%	7.0%	10.5%	6.1%
Read current affairs magazines (such as <i>The Economist</i> , <i>Time Magazine</i> or <i>the New Yorker</i> )	54.9%	9.1%	12.5%	6.0%	10.9%	6.5%
Read professional magazines (such as <i>Harvard Business Review</i> )	68.6%	6.1%	6.9%	6.8%	7.4%	4.2%
Read professional journals (for example, those with research articles, reports, and practical articles applicable to your profession)	48.2%	10.1%	12.8%	9.6%	12.8%	6.5%
Read books relating to news, current affairs or new developments	48.1%	13.3%	13.6%	7.7%	11.2%	6.1%
Watch YouTube, TedX or similar videos to engage with perspectives on political, economic, or scientific developments, research findings or other topics	37.1%	9.7%	14.7%	9.5%	15.9%	13.1%

**Table 5. Support for value statements associated with a progressive tolerant society.**

Question: How important are each of the following topics to you?	Not important	Somewhat important	Neither	Somewhat important	Very important	M(SD)
Living in a society that is just, inclusive and embracing of all without any barriers to participation based on sex, sexual orientation, religion or belief, ethnicity, age, class or ability.	1.9%	5.2%	13.7%	31.5%	47.7%	4.2 (.98)
Supporting physical and mental health, that of yourselves and others.	0.6%	4.2%	10.6%	31.8%	52.8%	4.3 (.87)
Seeing corporations and businesses adopt more ethical, responsible and sustainable ways of working	1.5%	5.8%	16.6%	36.9%	39.2%	4.1 (.96)

**Table 6. Path model standardised statistics.**

Variable	Level of occupation	Cohesion1: educational/political	Cohesion2: social	Network: talking to friends <sup>a</sup>	Network: talking to colleagues	Importance of keeping up to date <sup>a</sup>	Source1	Source2	Source3	Value1	Value2
$\chi^2/df = 298.286/173 = 1.7$ RMSEA = .038 CFI = .966	Highest level of qualification	-.122	<b>-.351</b>	<b>.192</b>	.053	<b>.109</b>	.079	<b>.503</b>	<b>.162</b>	.093	.092
	Level of occupation	.058	<b>-.336</b>	.084	<b>-.176</b>	<b>.257</b>	-.048	-.004	-.109	.082	.085
	Cohesion1: educational/political			.127	<b>.561</b>	.147	.138	-.066	<b>.374</b>	-.036	.060
Cohesion2: social				<b>.234</b>	<b>-.390</b>	-.038	-.076	-.140	-.272	<b>-.332</b>	<b>-.284</b>
Network: talking to friends <sup>a</sup>						<b>.196</b>	<b>.134</b>	<b>.130</b>	<b>.160</b>	.066	<b>.518</b>
Network: talking to colleagues						.025	.152	.087	-.011	.037	.092
Importance of keeping up to date <sup>a</sup>							<b>.201</b>	-.005	<b>.179</b>	.038	.011
Source1										.083	.092
Source2										<b>.284</b>	.094
Source3										<b>-.150</b>	<b>.127</b>

Note:

<sup>a</sup> manifest

in a just and inclusive society as either not important or were ambivalent about it; and almost a quarter (23.9%) felt similarly in terms of whether businesses should adopt ethical and sustainable ways of working, despite the current climate crisis. Supporting the physical and mental health of oneself and others was viewed as the most important of the three statements (something that might be expected given that the survey was conducted amidst the COVID-19 pandemic), nonetheless 15.4% of respondents still regarded it as either not important or again were ambivalent.

**Discussion of the descriptive analyses**

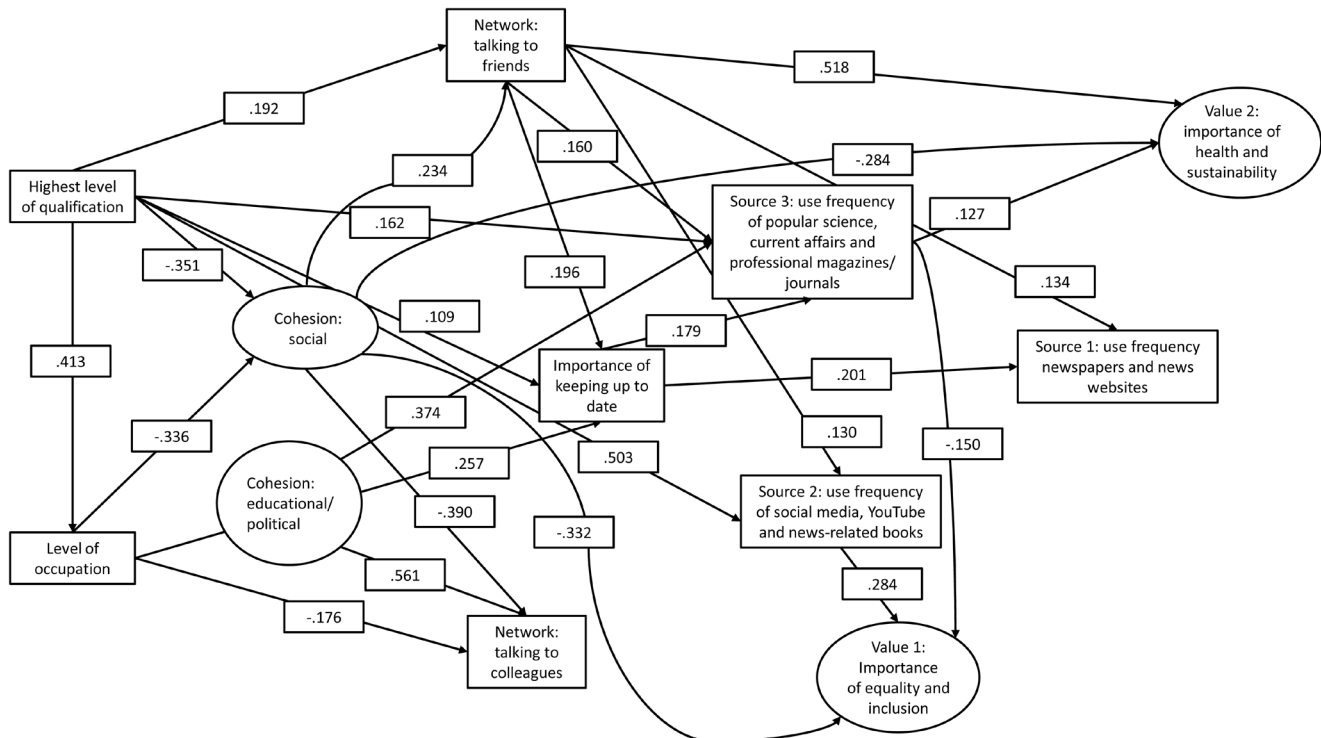
In response to RO1, our descriptive findings therefore appear to indicate that many people do keep up to date with new ideas, do so in a variety of ways, and also engage with content as mature critical consumers (i.e., seek a plurality of perspectives and prefer to engage with rigorous analysis). There is also strong importance attached by most respondents to the values you would hope to see in a modern, progressive and scientifically literate society. But as we will now illustrate with our Structural Equation Model, the link between keeping up to date and the importance ascribed to such value statements is not a simple one. This is because: 1) specific network and educational related factors seem to determine whether and how people stay up to date, as well as how much value they place on keeping up to date; 2) use of different media types seemingly affects the perceived importance of different values in different ways; and 3) educational and network factors also

seemingly influence the importance people ascribe to values; irrespective of whether they stay up to date or not.

**Results**

Our Structural Equation Model addresses both RO2 and 3. The overall model is presented in in Figure 1 (with the standardised statistics repeated in Table 6). One immediate finding that stands out from the model is that there is no direct pathway between the perceived importance of keeping up to date and the importance respondents ascribe to social values, such as the value of living in a tolerant society. Yet, a closer inspection reveals eight paths of particular relevance in terms of what influences and connects both variables. These paths are further described below.

**Path 1:** The first path of interest (reproduced as Figure 2, below) indicates that level of education negatively influences geographically related social cohesion (effect size of -.351). In other words, respondents with lower levels of education are more likely to agree that their friends not only live in the same neighbourhood as they do but are also likely to be employed in similar occupations. This implies that those with lower levels of education are more likely to live in relatively close-knit homogenous communities. This pathway also indicates that those in high cohesive, low education communities will not tend to regard either type 1 and type 2 values as important (where type 1 values are those relating to equity and inclusion, and type 2 values are those related to: a) supporting the physical and



**Figure 1.** The resulting Structural Equation Model for the survey data.

mental health, of oneself and others, and b) seeing corporations and businesses adopt more ethical, responsible and sustainable ways of working). This is reflected in the effect sizes for these variables, of:  $-.284$  and  $-.332$ , respectively.

**Path 2:** At the same time, there is a sub-route along this branch of the model (reproduced as Figure 3, below), which implies that some members of highly cohesive low education communities discuss news, current affairs and new developments with friends somewhat regularly (this is depicted by the effect size of  $.234$ ). When this happens, members of these communities are subsequently more likely to value the importance of keeping up to date (effect size of  $.196$ ) and to engage more with

each of the three different sources of media presented (effect sizes of  $.134$ ,  $.130$  and  $.160$  respectively). An even more likely outcome, however, is that these types of conversations with friends subsequently leads to an increased propensity to view type 2 values (health and sustainability) as important (effect size of  $.518$ ).

**Path 3:** A second sub-route in this branch of the path model (depicted as part of Figure 4, below) indicates that members of highly cohesive low education communities are unlikely to discuss news, current affairs and new developments with work colleagues (effect size of  $-.390$ ) and vice versa. **Path 4** (also depicted in Figure 4), meanwhile, indicates that higher levels

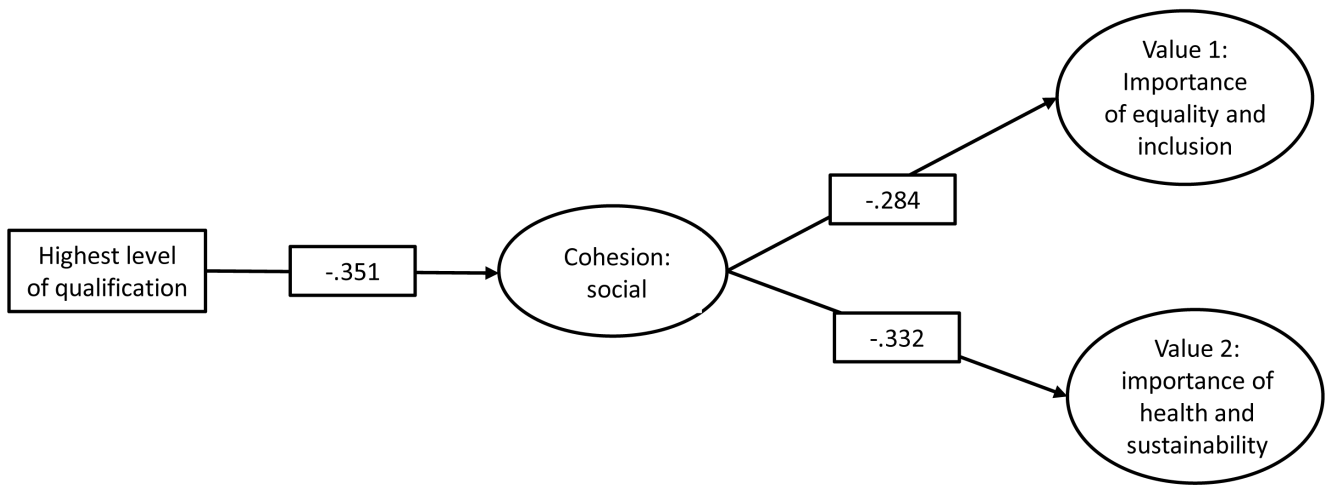


Figure 2. Structural equation model Path 1.

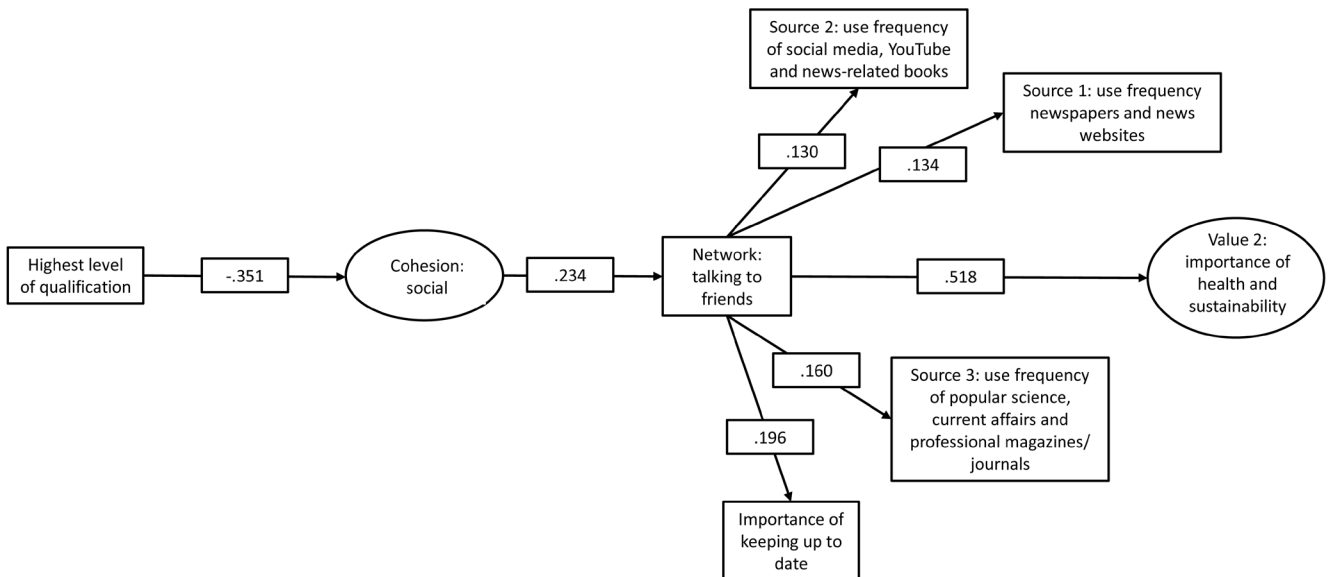


Figure 3. Structural equation model Path 2.

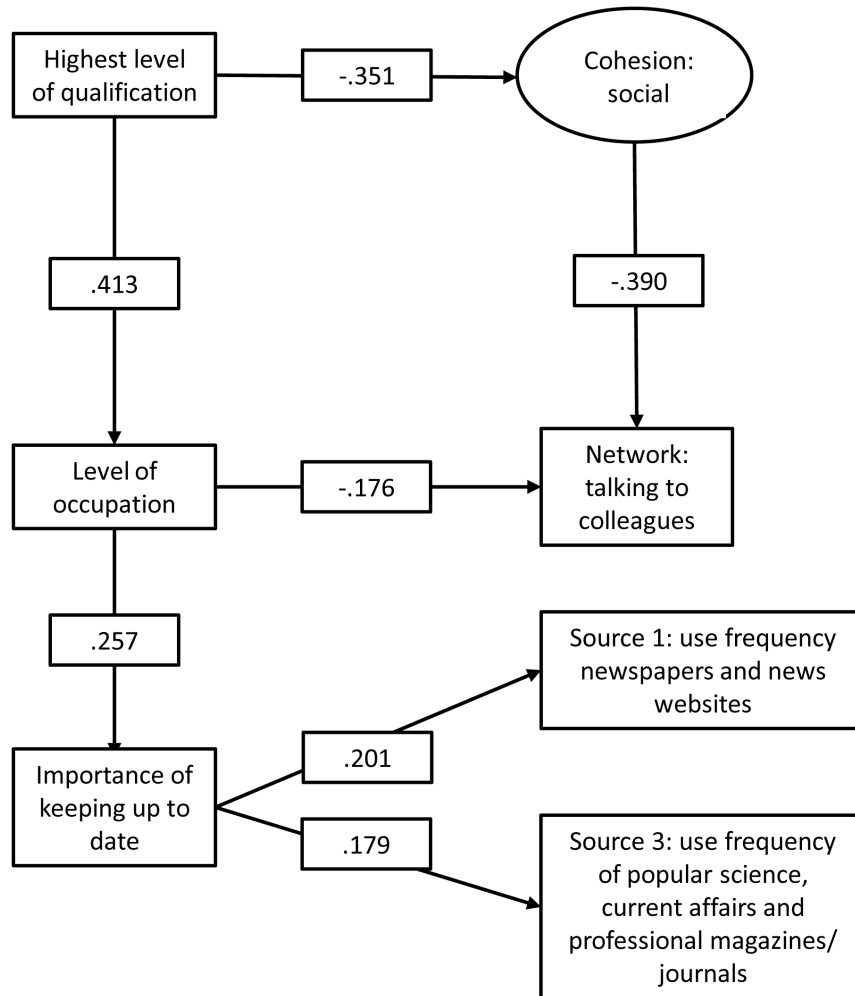
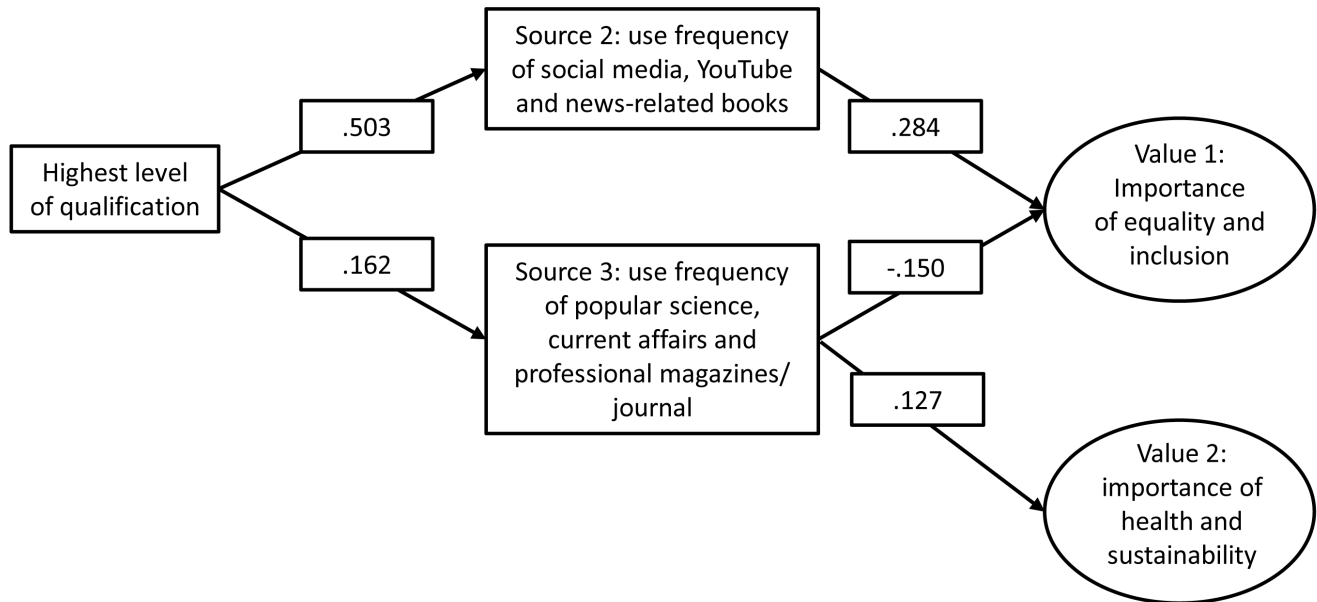


Figure 4. Structural equation model Paths 3 to 5.

of education are likely to lead to employment in roles of a higher managerial or professional nature, and less likely to lead to respondents employed in manual or routine occupations (effect size of .413). Furthermore, **Path 5** (also set out in Figure 4) illustrates that those in higher managerial and professional roles are more likely to value keeping up to date with news, current affairs and new developments (effect size of .257). As a result, they are also more likely to engage with both ‘source 1’: newspapers and news websites and ‘source 3’ media types: popular science, current affairs and professional magazines/journals (effect sizes of .201 and .179 respectively). Interestingly, however, unlike in Path 3, Path 5 also shows that those employed in manual or routine occupations, and not

living in highly cohesive low education communities, actually exhibit an increased propensity to discuss news, current affairs and new developments with work colleagues (effect size of -.176).

We also identified two further findings of relevance with regards to level of education. First, **Path 6** (depicted in Figure 5, below) indicates that the higher one’s levels of education, the more likely it is that individuals will be more open to *faster* (source 2) types of media: those such as social media, YouTube as well as news-related books (effect size of .503). In turn, those with both higher levels of education and who are more likely to use faster media, are also more likely to view type 1 values (i.e., those relating to equity and inclusion) as important



**Figure 5. Structural equation model Paths 6 to 7.**

(effect size of .284). Second, **Path 7** (also shown in Figure 5), indicates that the higher one's level of education, the more likely individuals will be to engaging with source 3 media types (effect size of .162), which results in a very small negative effect on individuals' view of type 1 values (effect size of -.150), but a higher importance being attributed to type 2 values (effect size of .127). This is perhaps related to the content of those magazines, which are perhaps more likely to cover the latter value rather than the former, or which might provide more nuanced critique on what is meant by values 1-type statements.

We also highlight that **Path 8** (which can be traced in Figure 1) implies that, unlike geographically related social cohesion, educational/political cohesion (i.e. the situation when ones' friends share our political views and have similar levels of qualification), is more likely to lead to individuals engaging with source 3 media types (i.e. popular science, current affairs and professional magazines/journals: effect size of .374). Educational/political cohesion is also likely to lead to individuals discussing news, current affairs and new developments with work colleagues (effect size of .561). Finally, it is also instructive to note that where conversations with friends do occur regarding news, current affairs and new developments, this is likely to increase engagement with all three media source types (effect sizes of .134, .130 and .160 respectively), increase the likelihood that staying up to date is valued (effect size of .196) and increase perceptions regarding the importance of type 2 values (i.e. those relating to sustainability and health: effect size of .518). We also observe that while three types of media are presented, it is only source 2 and 3 media that directly impact on how important each value is seen to be: with value

2 likely to be regarded as more important when people engage with professional or popular science magazines (effect size of .127), and value 1 more likely to be regarded as important as people engage with 'fast' (i.e. source 3) media (effect size of .284). More powerful factors seemingly influencing these values are therefore either educational or network related (the latter particularly so when it comes to social cohesion and conversations with friends).

## Discussion

A number of potential points of interest emerge from the Structural Equation Model when it comes to how we might address RO4 (using the findings from RO1-3 to suggest ways of closing the gap between the ideal democratic situation and the current state of play). The first is that level of education seems to influence whether people are more or less likely to live in homogenous cohesive communities; also whether they stay up to date (which occurs directly, via level of occupation held, as well as engagement with colleagues). As such, the model hints at a network effect where, because less educated individuals are grouped together and are less likely to seek outside perspectives (i.e. don't seek to stay up to date) they become relatively isolated from outside views that might positively challenge their perspectives. This means that more up to date beneficial practices and norms may be slow to reach these communities; something possibly reflected when this group of respondents were asked how important statements such as 'supporting physical and mental health, that of yourselves and others' were to them. At the same time discussion, when it occurs, seemingly counteracts this network effect. For instance, Figure 3 spotlights a clear path leading from discussion of news, current affairs and new developments with friends, to: 1) the

positive engagement by respondents with social media, YouTube and news-related books; 2) positive engagement with popular science, current affairs and professional magazines/journals; and 3) positive engagement with newspapers and news websites. We also see discussion with friends resulting in increased value attributed to the importance of staying up to date. Likewise, increased importance is also afforded to the value statements of 'seeing corporations and businesses adopt more ethical, responsible and sustainable ways of working' and 'supporting physical and mental health, that of yourselves and others'. Conversely, but also reflective of this network effect, is that when individuals are employed in manual or routine occupations but not living in low education, high cohesive communities, they are more likely to than those in in such communities to discuss news, current affairs and new developments with work colleagues.

Discussion may be able to counter the network effect (or represent its absence) because it is an indicator (a proxy measure) of the presence of a more positive form of relational social capital. If we define social capital as the value which comes from social networks, and which allow individuals to achieve things they couldn't on their own, then discussing news and current affairs with friends and colleagues can be viewed as a social capital related means through which to the knowledge, dispositions and competencies of individuals is being, or has been, developed (Brown, 2021). This is because social capital can result in the creation of certain types human capital in others: for instance, it can help individuals build a secure sense of self-identity, have confidence in expressing one's own opinions, and can increase emotional intelligence – all of which enables individuals to become better learners and citizens (Coleman, 1988). In other words, it can lead to a sparking of interest in relation to new ideas, as well as building one's ability to think about them or engage with them critically (Coleman, 1988). We also see a similar effect in relation to educational and political cohesion: this represents the extent to which respondents agree that their friends have similar levels of qualification as them, and also that respondents share similar political beliefs to their friends. Where this occurs, respondents consequently appear to have a level of self-confidence which enables them to discuss news, current affairs and new developments with work colleagues. They will also be more likely to read popular science, current affairs and professional magazines/journals.

### Education and value 1 and 2-type statements

A second potential point of interest from the Structural Equation Model is that level of education also affects the importance people ascribe to both value 1 and value 2-type statements. Beginning with the former, and it may be concluded that value 1-type concepts (i.e. those relating to tolerance and inclusion) are simply not seen as relevant to the immediate needs of this group. There are a number of reasons to explain this possible lack of relevance. To begin with, we can assume that communities comprised of less educated people are more likely to be economically disadvantaged and so are more likely to suffer the impacts of poverty. As such there is a higher likelihood that a 'mentality of scarcity' will be present. This type of mentality serves to limit one's focus to meeting only

the most immediate of needs (e.g. dealing with issues such as 'what's for dinner?', 'how will I pay my rent?', 'how will I pay for my heating') (Bregman, 2018). This is perhaps especially so in the post-pandemic period, where in the UK, the use of food banks is historically high; with poverty fuelled by rising energy bills, inflation and reductions to social security benefits (e.g. the end of the £20-a-week universal credit uplift) (Harris, 2021). Likewise, increasing fuel costs have led to many landlords increasing their rents, further compounding the issue (ibid). The effects of scarcity mentality have been shown by Bregman (2018) to be equivalent to a temporary reduction of 13–14 IQ points; in turn, this has a massive impact the decision-making ability of those affected and can diminish people's capacity to engage in meaningful thought about future-related activity or less tangible concepts. In other words, this group may *literally* not be able to afford to be worried about such ideals. It is also possible that many of those living in such communities will hold roles that are less likely to be professional or supervisory in nature. As such, this group might simply not have the immediate cognitive bandwidth to think about how such abstract concepts might be beneficial. For instance, Parcel & Bixby (2015) suggest that more complex professional jobs (those typically held in more advantaged households) tend to involve more autonomy and actively reward creativity and innovative problem-solving. Less complex roles (i.e. those generally held by those in disadvantaged homes) are more likely to be highly supervised and involve work that is routinised and repetitive in nature and so can 'de-skill' employees when it comes to more 'blue skies' thinking about broader societal changes.

Alternatively, it may be that this response to value 1-type statements represent an active claim to resource. When it comes to inclusion, for instance, it may be that people don't want to 'share' what little they have with 'immigrants' or 'others'. For example, it is argued that a key driver of Brexit, was that 'uncontrolled immigration' was popularly perceived as: 1) driving down wages; 2) causing shortages in housing (leaving many workers in cramped and expensive privately rented accommodation); and 3) placing a strain on the National Health Service, as well as diminishing the social status of the white working class more generally (Tilford, 2016). Regardless of the veracity of these opinions, if they are held then this might explain why inclusion is viewed negatively. This perspective would also account for the negative response to value 2-type statements. Consider, for example, sustainability: if achieving a sustainable economic model is likely to result in a rise in prices, then why support it? A good example of the type of push back that can result in such instances is the *mouvement des gilets jaunes*: a series of populist weekly protests in France which occurred in response to rising crude oil and fuel prices, with protesters calling for lower fuel taxes (Quinn & Henley, 2019). As another example, being healthy (in terms of exercise and diet) is also, unfortunately, relatively more financially expensive than being unhealthy; so again, is likely to be seen as less important in a time of austerity and reduced income.

Another potential explanation of the low importance afforded to value 1 and value 2-type statements is that people in

disadvantaged communities can exhibit a lower propensity to adopt altruistic or pro-social attitudes and behaviours (here altruism is taken to represent motivational states where the end goal is to increase another's welfare, while prosocial attitudes relate to actions designed to help or benefit others: [Dias, 2017](#); [Eisenberg, 1982](#)). There are a number of potential reasons that might account for this lower propensity. For instance, analysis by [Putnam \(2000\)](#) suggests that in virtually all societies the 'have nots' are typically less trusting than the 'haves' (typically as a result of the occurrence of negative actions such as crime and anti-social behaviour at the community level), so reducing the chances that pro-social attitudes and behaviour will occur. We also know that people in less affluent households are also significantly less likely to engage in arts and cultural activity than their advantaged counterparts ([Brown, 2021](#)). Yet such engagement has been shown to promote pro-social attitudes and behaviours. For instance, the arts have the ability to create empathy: as [Broadwood et al. \(2012\)](#) observe, witnessing misfortune in a film, play or book can spark emotions such as concern, sympathy and compassion (all of which, social psychology research indicates, will motivate prosocial attitudes: [Djicic et al., 2009](#)). Experiments conducted into the effect of feeling positive emotions have also shown that those experiencing them demonstrate an increased capacity for broad-based thinking. For instance, research participants who were encouraged to feel positive emotions through watching emotionally evocative films, subsequently displayed improved cognitive abilities (see [Frederickson, 2003](#)). Furthermore, as a result of momentarily broadening attention and thinking, it was concluded that positive emotions could lead to the production of novel ideas and creativity, actions and social bonds ([Frederickson, 2003](#); [Hawkes, 2001](#); [Isen, 1987](#)).

One last suggested explanation for the link between level of education and the importance people ascribe to both value 1 and value 2-type statements again goes back to the network effect outlined above. In other words, it represents a situation where, because less educated individuals are more likely to be grouped together and less likely to seek outside perspectives, they may not be exposed to other perspectives or voices that might positively champion value 1-type perspectives in terms of why these concepts do have relevance/importance to us all.

A final area for discussion regarding the Structural Equation Model is the role of social media in terms of the importance of value 1-type statements. Scholars have previously highlighted the risk of social media users only receiving a limited 'bandwidth' of content ([D'Ancona, 2017](#); [Zuiderveen Borgesius et al., 2016](#)). This is because the algorithms social media firms use are designed to 'respond to reward' and base future content recommendations on what users have previously expressed interest in ([du Sautoy, 2019](#)). At the same time, social media echo chambers are also thought to drive both positive and negative social movements. On the plus side, we have seen the #metoo (anti-harassment and sexism) and the #BLM (anti-racism) movements ([Konadu & Gyamfi, 2021](#); [Modrek & Chakalov, 2019](#)). Negative instances, however, include the fuelling of

those identifying as 'incel' ([Griffin, 2021](#)); as well as the Trump supporters who were mobilised via twitter to overrun the nation's Capitol ([Blue, 2021](#)). With our model, however, what is seemingly displayed is the galvanising effect of social media on value 1-type statements (those relating to inclusion and tolerance) for highly educated people. In other words, as [Figure 5](#) shows, those with higher levels of qualification are much more likely to be frequent users of social media, YouTube and news-related books. In turn this is likely to lead to more highly educated individuals agreeing that value 1-type statements are important. Yet, because we also see clear paths linking those with higher levels of education to Source 1 and 3 media types, we can also infer that more educated people engage with numerous approaches to staying up to date and so engage with a diverse range of content. In other words, well educated people seemingly engage with a range of perspectives via numerous channels but will engage with faster media types in relation to the ideas or perspectives that matter to them most.

## Conclusion

With western society currently in the midst of environmental, social and political crises, it seems more pertinent than ever that citizens become 'ideas-informed'. Furthermore, that social mechanisms are in place which foster the ideal model of democracy set out in the introduction to this paper, as well as strong support for the sort of values that we would hope are exhibited in progressive tolerant societies (which in turn should reinforce the value people place on staying up to date). With regards to Research Objective 4, it would seem that longer term, education is the most appropriate of these mechanisms. Correspondingly, this suggests teachers and teaching needs to be fully harnessed to equip future citizens with the skills, aptitudes and dispositions needed for them to actively want to keep up to date, as well as engage in debates relating to ideas, truth claims and new developments. Likewise, education needs to ensure that children are armed with the ability to separate fact from fiction, encouraged to value ideas such as veracity, honesty and accountability, and are able to develop and use their critical thinking skills in order that they can constructively challenge new ideas. Education also needs to support citizens' ability to engage in effective collaboration with peers: this is because this type of collaboration can help with resilience and controlling emotion; both of which are associated with individuals being able to possess the mentality required to engage reflectively with new ideas and to accept challenge ([Brown & Luzmore, 2021](#)). Yet, if education is to achieve these things, then educators themselves must be able to model what is required, which will likely necessitate them developing new traits and ways of working. As such, we argue that teachers and school leaders now need to become high-level knowledge workers – those who constantly advance their own professional knowledge as well as that of their profession ([Schleicher, 2012](#)). In this context, the development of relevant high quality, continuing professional learning programmes will be necessary.

But we also suggest that there is a need for meaningful short/medium term acts that work to address some of the issues



outlined above. So, what might be required? Key pathways in the model indicate that those in low education, high cohesive communities are unlikely to regard keeping up to date as important. Nor do those in such communities apparently see value in statements concerning tolerance and inclusion, the ethical and sustainable practices of businesses, or the need to support ours or others' physical and mental health. Yet this situation apparently changes when ideas-related dialogue and conversation is fostered within such communities. It is also likely to change should any of the posited reasons above actually account for the negative link between low educated highly cohesive communities and attitudes to value 1 and 2-type statements and are then effectively addressed. Given the range of possible factors which might account for the relationships (and direction of the relationships) connecting education to cohesion and then to value 1 and 2-type perspectives (as well as the importance of staying up to date), we recommend that it should be the aim of future studies to undertake further exploratory work to pave the way for an intervention study. First qualitative research can more fully explore why value 1 and 2-type perspectives, as well as staying up to date are or aren't valued in low educated, high cohesive communities. Also, what types of interventions might address the reasons that emerge from this qualitative phase. Following this, the effectiveness of potential interventions should then be tested: for example, through the use of Randomised Control Trials or Quasi Experimental Approaches. We argue that this research and intervention activity is urgently required and should be undertaken sooner rather than later. The alternative is the very real risk that society leaves itself open to further populist colonisation of public discourse; with simplistic messages and soundbites, such as 'get Brexit done', driving votes and public support, rather than the complicated political arguments and nuances of the past. In other words, without such action, society is likely to fail to engage fully in the types of debate that is

needed if we are to further the social progress of recent times, as well as tackle the complex and wicked problems we currently face (Hall, 2021; Rittel & Webber, 1973).

## Data availability

### Underlying data

OSF: Achieving an 'ideas-informed' society: survey data

<https://doi.org/10.17605/OSF.IO/9MH4Y> (Brown & Groß Ophoff, 2022)

This project contains the following underlying data:

- Achieving an ideas-informed society survey data. sav (Survey data of 1,000 adults, resident in England, aged 18 plus: full data labels provided)

### Extended data

OSF: Achieving an 'ideas-informed' society: survey data

<https://doi.org/10.17605/OSF.IO/9MH4Y> (Brown & Groß Ophoff, 2022)

This project contains the following extended data:

- Survey.docx (Full list of survey questions)

Data are available under the terms of the [Creative Commons Zero "No rights reserved" data waiver](#) (CC0 1.0 Public domain dedication).

## Software availability statement

This project used [Mplus](#), (Version 8; Muthén & Muthén, 2017) which is a proprietary software package. However, Structural Equation Modelling can also be undertaken using the programming language alternative [R](#), which is both free and Open Source.

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**Geoff Vaughan**, Eszterhazy Karoly Catholic University, Eger, Hungary

Such an insightful paper with many good, detailed discussion points coming from the conclusions. The models provide good insight into the structure of networks and are important. Very interested in following the research aims and seeing if there are wider European surveys that can be developed to get a broader European understanding of networks. Very keen to remain a professional participant in this work.

**Competing Interests:** None

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