2020 SFI Barometer

Final Research Report (Phase II)

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Executive Summary

This report presents findings from the second phase of survey research on national science attitudes, conducted by Qualia Analytics on behalf of Science Foundation Ireland (SFI) in 2021. These findings show the ways in which the Irish population's science attitudes have shifted since the peak of the Coronavirus pandemic in the summer of 2020, when the first phase of this research was conducted.

This was achieved by following up with the respondents from the first phase of the research and inviting them to complete a second survey. Of the 1048 respondents to the first survey, 336 (32%) also completed the second. All values and graphics show results relating to respondents that participated in both rounds of research. These results have been weighted to be representative of the Irish population.

Main Results

Overall, public attitudes towards science and scientists remained extremely positive in 2021.

- An overwhelming majority of people indicated that science is fascinating (+3%; 97%), useful (±0%; 97%) and essential (+2%; 94%).

- Compared to 2020, an increased number of people found science honest (+5%; 90%), inspiring (+4%; 92%), and fascinating (+3%; 97%).

As was the case in 2020, positive sentiment towards scientists was not quite as strong as positive sentiment towards science itself.

- While perceptions that scientists are stimulating (-4%; 78%) and honest (-5%; 82%) have decreased, agreement that scientists are useful (+5%; 98%) and inspiring (+2%, 89%) have increased.

Irish trust in science has remained strong, though it dropped when it comes to both public- and privately-funded scientific institutions.

- In 2021, strong majorities still trust both 'science' (+6%; 93%) and 'scientists' (±0%; 81%).

- The public still had the strongest level of trust in 'medical health professionals' (-3%; 85%), 'scientists' (-2%; 84%) and 'public health experts' (-1%; 81%) when compared to other professions.

- Trust in both public- and privately-funded scientific institutions has decreased across all measures of trust (-3% on average for both public and private institutions).

The Irish population continued to value science strongly in their personal lives in 2021.

- An even greater majority of people (+5%) agreed that 'it is important for me that I am informed about science' (91%) in 2021.

- There was still widespread agreement that 'learning science changes my ideas about how the world works' (-2%; 89%) and that 'science is useful in solving everyday problems in my life' (±0%, 79%).

- Compared to 2020, fewer people (-14%) expressed negativity about the accessibility of scientific careers, with 44% agreeing that 'with hard work, anyone can be a scientist'.

The public's perception of their own scientific capabilities has improved since 2020, with small increases in confidence across almost all measures.

- More than two-thirds of people (+4%; 71%) agreed that they 'have a good understanding of science'.

- 83% of people agreed with the statement 'I feel capable of understanding science' (no change since 2020) and disagreement with this statement decreased (-1%).

- Disagreement with the statement 'I have a good understanding of science' decreased (-9%) and agreement increased (+4%).

Considerable support for public investment in science and the role of science in guiding public policy was evident, alongside an increase in support for public participation in science.

- In 2021, 92% of people agreed with the statement that 'the government should look for scientific evidence when deciding how to solve problems' (+3%).

- Support for public investment in science remained strong, with 90% (+3%) of people agreeing that 'public money spent on science is well worth spending'.

- In 2021, there was an increase in agreement with the idea that 'the general public should have a say in how science develops' (+7%; 40%).

More of the Irish public acknowledged the positive impact of science on society, but more also recognised a need for increased gender diversity.

- In 2021, the Irish public were even more confident about science's positive impact on society, with 87% agreeing that 'science is making the world a better place' (+3%).

- There was still a widespread public view that 'scientists have a professional responsibility to talk about research findings with the public' (+3%; 84%).

- However, a smaller proportion than in 2020 agreed that 'people who will be directly affected by scientific research should have a say in how it develops' (-4%; 49%).

- Since 2020, agreement with the statement, 'we need more gender diversity in science,' increased (+7%; 62%).

In terms of information-seeking behaviour in 2021, the Irish public indicated checking science news less frequently than in 2020.

- In 2021, people most often followed 'news in general', with most people checking this daily (-5%; 65%), and another 31% checking it between once a week to 4-6 times a week (-1%).

- The number of people checking 'science news' 2-3 times a week has increased in 2021 (+11%; 33%) while those checking 'science news' 4-6 times a week has decreased by 10%. This indicates a modest overall shift towards less frequent science news consumption.

- Popular news types still included 'health news' and 'government and politics', with 44% and 43%, respectively, reporting following them daily. However, the proportion of people checking these two types of news daily decreased since 2020 (by -14% and -9%, respectively).

COVID-19 Results

The Irish public continued to recognise the serious negative impacts of COVID-19, but some also felt it had led to positive impacts.

- There was unanimous agreement that 'getting sick with the Coronavirus (COVID-19) can be serious' (+1%; 100%).

- Since 2020, there has been an increase in people who recognise that 'the Coronavirus (COVID-19) [will have/has had] a negative impact on many people in my community' (+11%, 83%).

- However, there was a reduction in perceived risk of personal infection, with an 18% increase in disagreement (to 53%) that '[they] will probably get sick with the Coronavirus (COVID-19)'.

- Notably, more people agreed (47%) that 'the Coronavirus (COVID-19) situation has improved some aspects of [their] daily life' compared to those who disagreed (40%). This was a new survey item and therefore did not allow for comparison with 2020.

While support for mandatory COVID-19 vaccinations for 'everyone in Ireland' decreased from 2020 to 2021, there were higher expectations for international travellers and healthcare workers revealed by new, more detailed questions about vaccine mandates introduced in the 2021 survey.

- Since 2020, the proportion of people who agreed that 'everyone in Ireland should be required to get a Coronavirus (COVID-19) vaccination' has significantly decreased (-16%; 66%).

- However, 76% of people agreed that 'everyone arriving in Ireland from another country should be required to get a Coronavirus (COVID-19) vaccination'.

- The same proportion of people (76%) also thought that 'healthcare workers' should always be required to show proof of vaccination.

- 74% of people said that proof of vaccination should always be required when 'travelling internationally by plane'.

- On the other hand, there was the strongest level of opposition to the requirement for proof of vaccination when 'visiting a park' (76% rarely or never).

People still thought scientific evidence should guide COVID-19 decision-making, but the perception that political considerations were being prioritised instead increased from 2020 to 2021.

- Scientific evidence remained the factor that the public thought the government should be considering the most (+4%, 93%).

- From 2020 to 2021, the gap widened (+15%; 45%) between those who thought political considerations were being prioritised by the government (45%) compared to those who thought political considerations should be prioritised (0%).

- The public's belief that advice from medical doctors was being considered dropped by 11% (51%) in 2021.

In 2021, the COVID-19 pandemic had a continued effect on people's health situations, but a reduced disruption to people's work.

- 85% of respondents said they had been vaccinated against COVID-19, with 59% of those indicating they had received the BioNTech/Pfizer vaccine.

- The COVID-19 pandemic had a continued negative effect on people's mental health, with 9% more people (40%) reporting that their mental health [has been] negatively affected, compared to 2020.

- Since 2020, there has been a notable shift in people's work lives, with 21% fewer people working from home (23%).

Finally, there have been major changes in the public's interest in different types of news, and a slight decrease in complete trust in COVID-19 news sources.

- There have been dramatic increases in the proportion of people indicating interest in 'technology news' (+74%; 83% overall), 'health news' (+56%; 64% overall) and science news (+52%; 59% overall).

- RTÉ News remained the dominant news source for the Irish public, with 74% of people still selecting it as their 'primary COVID-19 news source' (-1%).

- Since 2020, there has been a decrease (-13%; 27%) in the number of people who completely trust their primary COVID-19 news source.

The Irish population continued to value science strongly in their personal lives in 2021

Support for public investment in science remained strong, with 90% (+3%) of people agreeing that 'public money spent on science is well worth spending'.

97% of respondents still found science useful and important.

A greater majority of people (+5%) agreed that 'it is important for me that I am informed about science'

91% in 2021

Science in government policy

92% of respondents agreed with the view that 'The government should look for scientific evidence when deciding how to solve problems'

Science News

There have been **dramatic increases** in the proportion of people indicating interest in science news...

interest in 'technology news'	+74%; **83% overall**
interest in 'health news'	+56%; **64% overall**
interest in 'science news'	+52%; **59% overall**
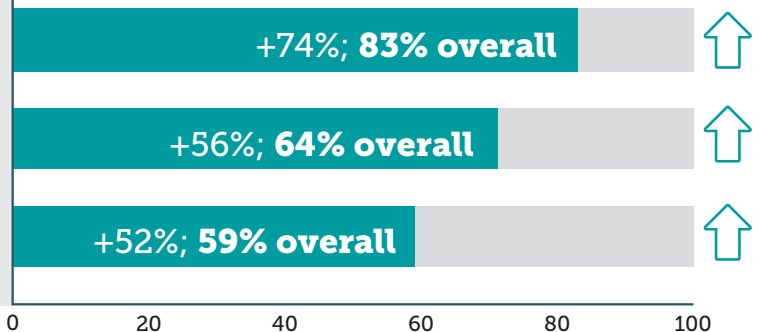
0　20　40　60　80　100

The level of trust that the Irish public invests in its primary source of COVID-19 news has **declined significantly** since 2020.

COVID-19 Results

Since 2020, there has been an increase in people who recognise that **'the Coronavirus (COVID-19) [will have/has had] a negative impact on many people in my community'**

+11%; **83%**

Since 2020, the proportion of people who agreed that **'everyone in Ireland should be required to get a Coronavirus (COVID-19) vaccination'** has significantly decreased

+16%; **66%**

Since 2020, there was a

9%

increase in those reporting **negative mental health impacts** due to the pandemic.

76% of people agreed that **'everyone arriving in Ireland from another country should be required to get a Coronavirus (COVID-19) vaccination'**.

85% of respondents said they had been vaccinated against COVID-19.

1 Introduction

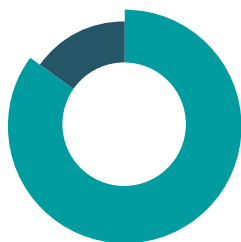In 2019, Science Foundation Ireland (SFI) commissioned Qualia Analytics to run the 2020 wave of its public science attitudes survey, the SFI Science in Ireland Barometer. The SFI Science in Ireland Barometer is designed to reveal the engagement, level of understanding, views and experiences of a representative sample of the Irish population regarding science, scientists and scientific topics. As SFI, and the science community in Ireland more broadly, face many layers of decision-making in facilitating the progression of scientific research in Ireland, it is essential for them to understand the views of the people that they seek to benefit with this work: the Irish public. When conducted to high social scientific standards, survey research is the ideal tool to gather important representative insights and enable the Irish scientific community to keep its finger on the pulse of the dynamics underlying the Irish public's engagement with science.

The Barometer also offers SFI the opportunity to assess progress on its goal of empowering and inspiring deep public engagement with Science, Technology, Engineering and Maths - a key objective within Shaping Our Future: Science Foundation Ireland's Strategy 2025.

The first survey was completed in the summer of 2020 (the SFI Science in Ireland Barometer 2020 Research Report can be found here[1]). Recognising the potential impact of the COVID-19 pandemic on the public's relationship with science[2], this was followed by a second survey with invitations sent to the same respondents in the summer of 2021. This report compares responses from people who participated in both rounds of research (n = 336, response rate of 32% from the 2020 sample), ensuring the changes in attitudes reported are accurate. This means some figures for the 2020 data detailed in this report differ from the figures reported in the Phase I report, as Phase I used a larger sample.

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1   https://www.sfi.ie/engagement/barometer/

2   Jensen, Kennedy & Greenwood. (2021). Pandemic: public feeling more positive about science. Nature, 591: 34. Accessed at: https://www.nature.com/articles/d41586-021-00542-w

The overarching research question driving the follow-up phase of this research is:

'Who values science in Ireland and why?'

With this phase added to the original plans for the Barometer, we aim to understand

'To what extent has public support/value for science and scientists in Ireland changed from 2020 to 2021?'

The surveys covered a range of topics about the relationship between science and society, yielding both quantitative and qualitative data for analysis[3], designed to help SFI and the Irish scientific community monitor the landscape of public attitudes about science. The findings presented in this report offer robust evidence about how different aspects of the Irish public's relationship with science have changed or remained stable between 2020 and 2021.[4]

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3   Final sample of 1018 respondents for Phase 1 and 336 respondents for Phase II.

4   NOTE: All results from the research presented in this report are weighted to accurately represent the Irish population. However, it should be noted from the outset that a large proportion of these results represent the views of White respondents (99.9%). Further information on weighting techniques can be found in section 6.1.3.

2 Main Results

2.1 | Change in Attitudes Towards Science & Scientists

Section Summary

Here, findings on the Irish public's overall attitudes about science are presented. Respondents were asked to mark a scale between pairs of opposing adjectives to indicate their views about science (Figure 1) and scientists (Figure 2), for example, marking a seven-point scale between useless - useful or dishonest - honest. Importantly, the terms 'science' and 'scientist' were not imposed or defined. This means respondents were left to use their own understandings of these concepts when responding to the survey questions, so that answers would reveal pre-existing, everyday attitudes about what people interpret 'science' and 'scientists' to mean, rather than newly developed ones based on a specific definition.

2.1.1 | Attitudes Towards Science

An overwhelming majority of people indicated positive views towards science (Figure 1). Results show that the very positive attitudes towards science found in 2020 remained relatively similar in 2021. Most respondents still found science useful (±0%, 97%) and important (+1%, 97%). There were small increases in the proportion of respondents who viewed science as honest (+5%, 90%), inspiring (+4%, 92%), fascinating (+3%, 97%) and essential (+2%, 96%). However, there were small decreases in those who viewed science as stimulating (-3%, 91%) and beneficial (-4%, 91%). The negative shift for harmful - beneficial from 2020 to 2021 was statistically significant[5,6]. Overall, the attitudes towards science with the highest proportion of negative responses in 2021 were harmful (5%) and dishonest (4%), albeit these negative views were still rare amongst the Irish public.

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5   In this report, the term 'significant' refers to statistically significant differences between 2020 and 2021. See section 6.1.4 for further details.

6    $t(312) = 3.598$, $p = .000$, $d = 0.203$

Figure 1. Public Attitudes Towards Science

Responses to semantic differential, "I think SCIENCE is…" (-3= negative; +3= positive)[7.]
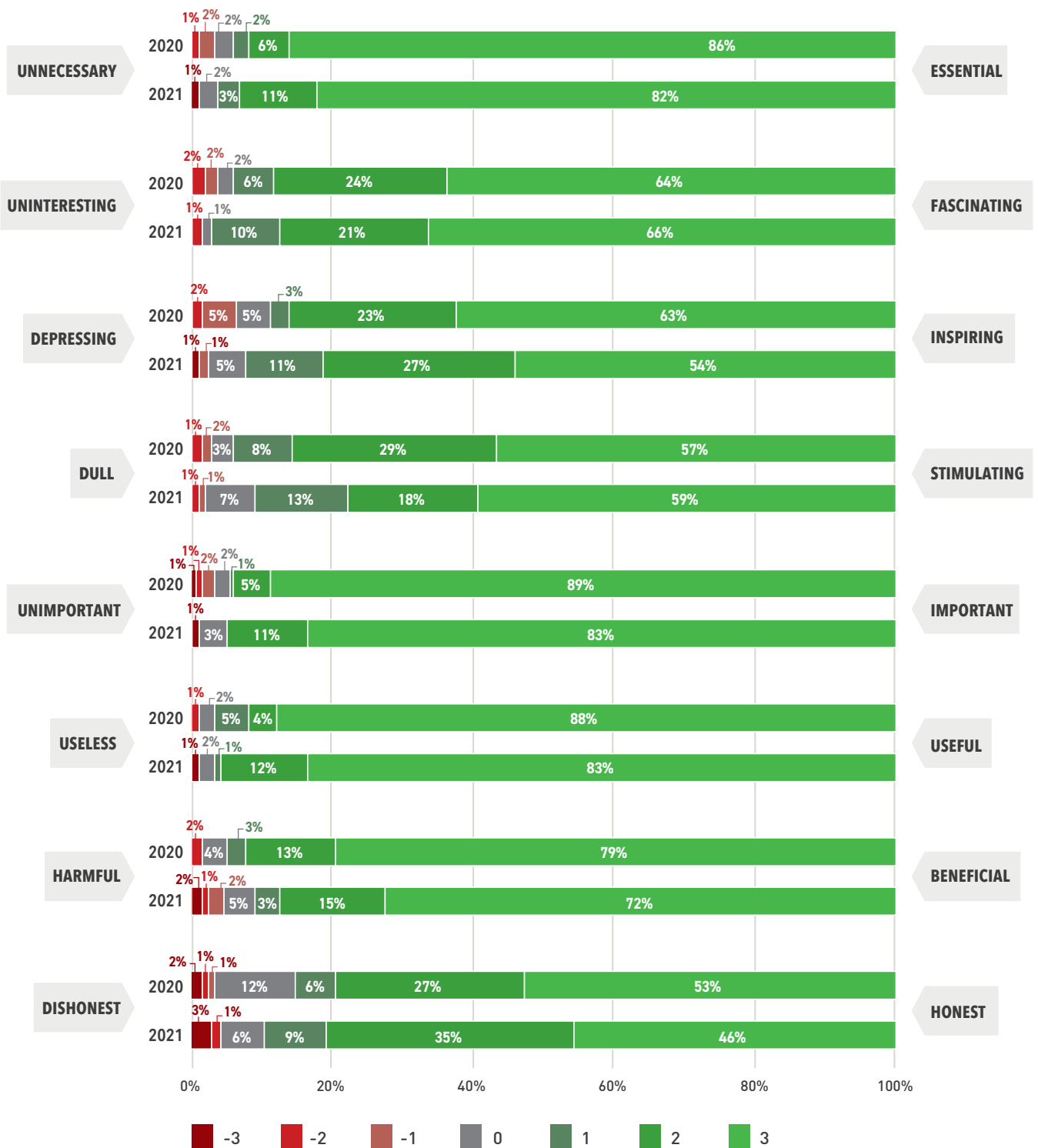
2.1.2 | Attitudes Towards Scientists

The results show that public attitudes towards scientists have remained positive overall since 2020 (Figure 2). There were attitudes with some positive changes, including views that scientists are inspiring (+2%, 89%), important (+2%, 97%) and useful (+5%, 98%). At the same time, some positive views slightly decreased, including the view that scientists are essential (-1%, 96%), fascinating (-3%, 85%) and stimulating (-4%, 78%). From 2020 to 2021, there were negative shifts in the view that scientists are beneficial (-5%, 89%) and honest (-4%, 82%).[8]

Figure 2. Public Attitudes Towards Scientists

Responses to semantic differential, "I think SCIENTISTS are…" (-3=most negative; +3=most positive)[9]
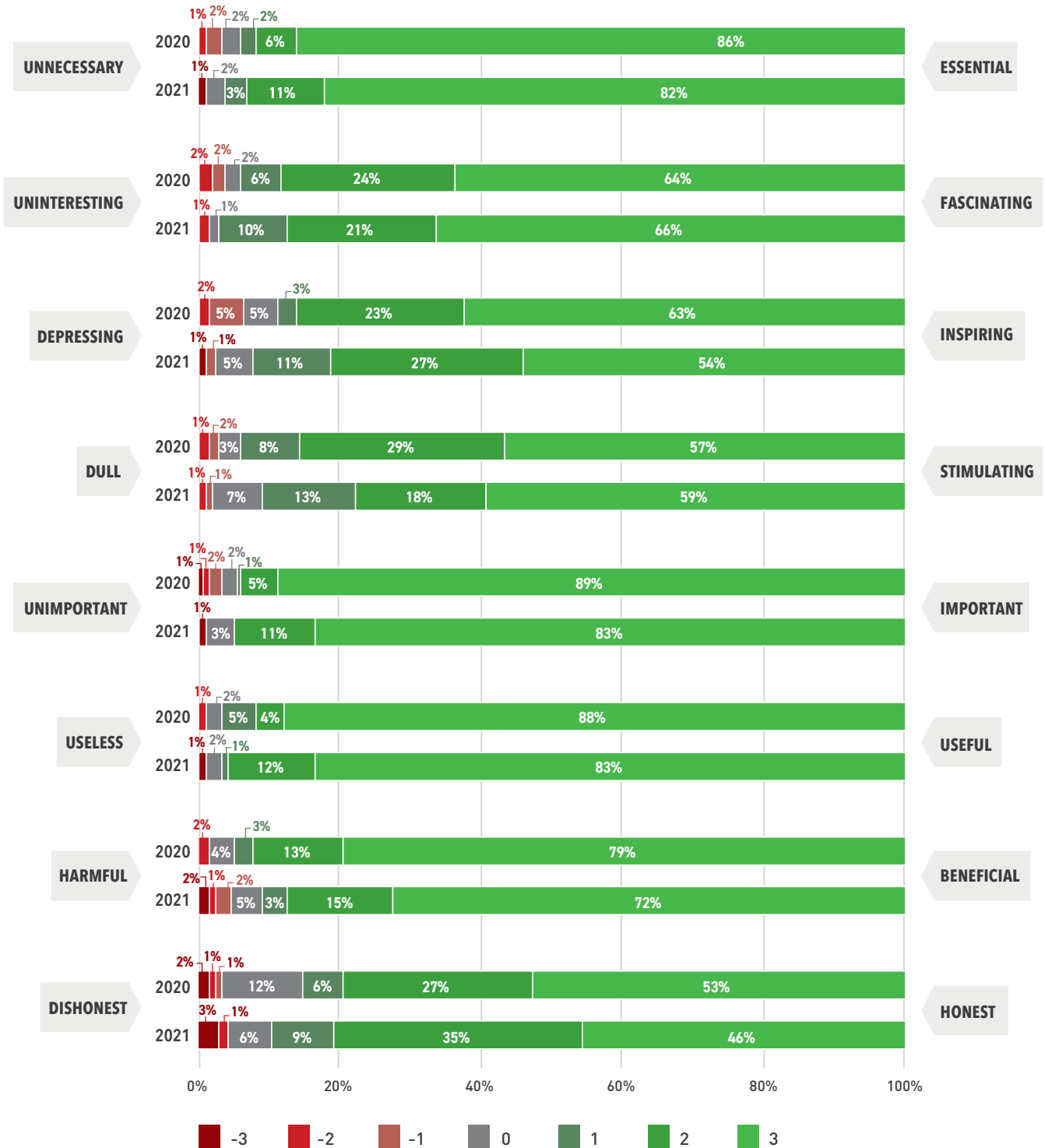
8    $t(312) = 4.086$, $p = .000$, $d = 0.231$; $t(312) = 3.631$, $p = .000$, $d = 0.205$

9   n (top to bottom): 323, 325, 321, 318, 325, 319, 323, 318, 325, 324, 322, 321, 324, 323, 324, 322.

2.2 | Change in Trust in Science and Scientists

Section Summary

This section explores changes in the public's levels of trust in science and scientists between 2020 and 2021. These results are then divided into views about publicly- and privately-funded scientists. Levels of trust in scientists are also compared to other professions.

2.2.1 | General Trust in Science and Scientists

The results show that most people in Ireland still exhibit high levels of trust in science (+6%; 93%) and scientists (±0%; 81%)[10] in 2021 (Figure 3).

We found a clear difference between those who completely trust science (68%) compared to those who completely trust scientists (23%) in 2021. This gap has widened since 2020. Indeed, results indicated a small, statistically significant increase in trust in science and a small increase in distrust in scientists since 2020.

Figure 3. General Trust in Science and Scientists

Responses to levels of trust statement, "In general, would you say you distrust or trust […]"[11]

Legend:
- Completely distrust
- Partially distrust
- Neither distrust nor trust
- Partially trust
- Completely trust

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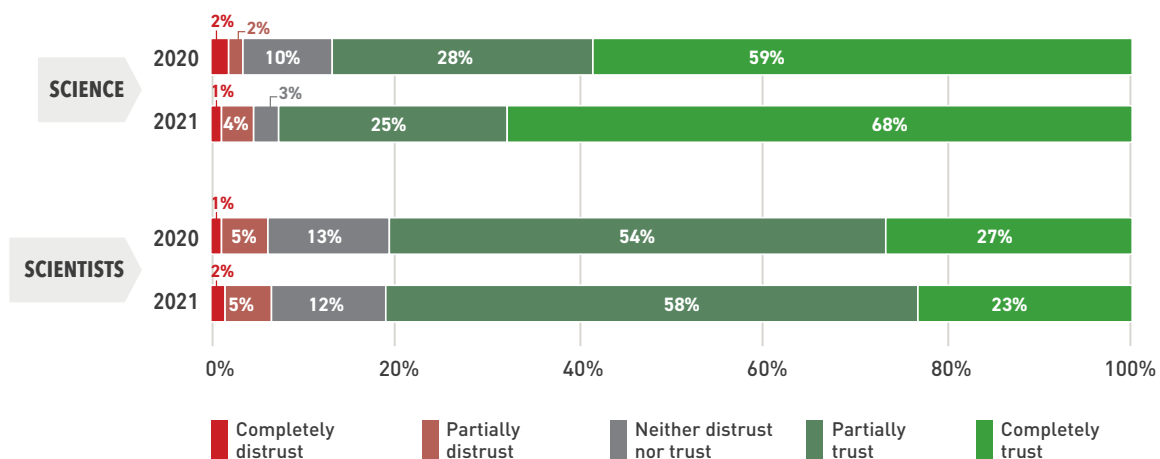
10   t(327) = -3.025, p = .003, d = -0.167
11   n (top to bottom): 330, 333, 330, 331.

2.2.2 | Trust in Key Irish Professions

The results for public trust in key professions show some significant changes between 2020 and 2021 (Figure 4). Overall, small decreases in positive indicators of trust were evident for all types of professionals. The most trusted categories are still medical health professionals (-2%; 85%), scientists (-1%; 84%)[12] and public health experts (-2%; 81%). Trending even further down than in 2020, the least trusted professionals are still politicians (-9%; 13%)[13] and journalists (-4%; 37%)[14]. Public trust in the government (-8%; 36%)[15] and people in [the respondent's local] neighbourhood (-9%; 55%)[16] reflect a similar downward trend.

Figure 4. Public Trust in Key Irish Professions

Responses to levels of trust statements, "How much, in general, do you distrust or trust each of the following?"[17]

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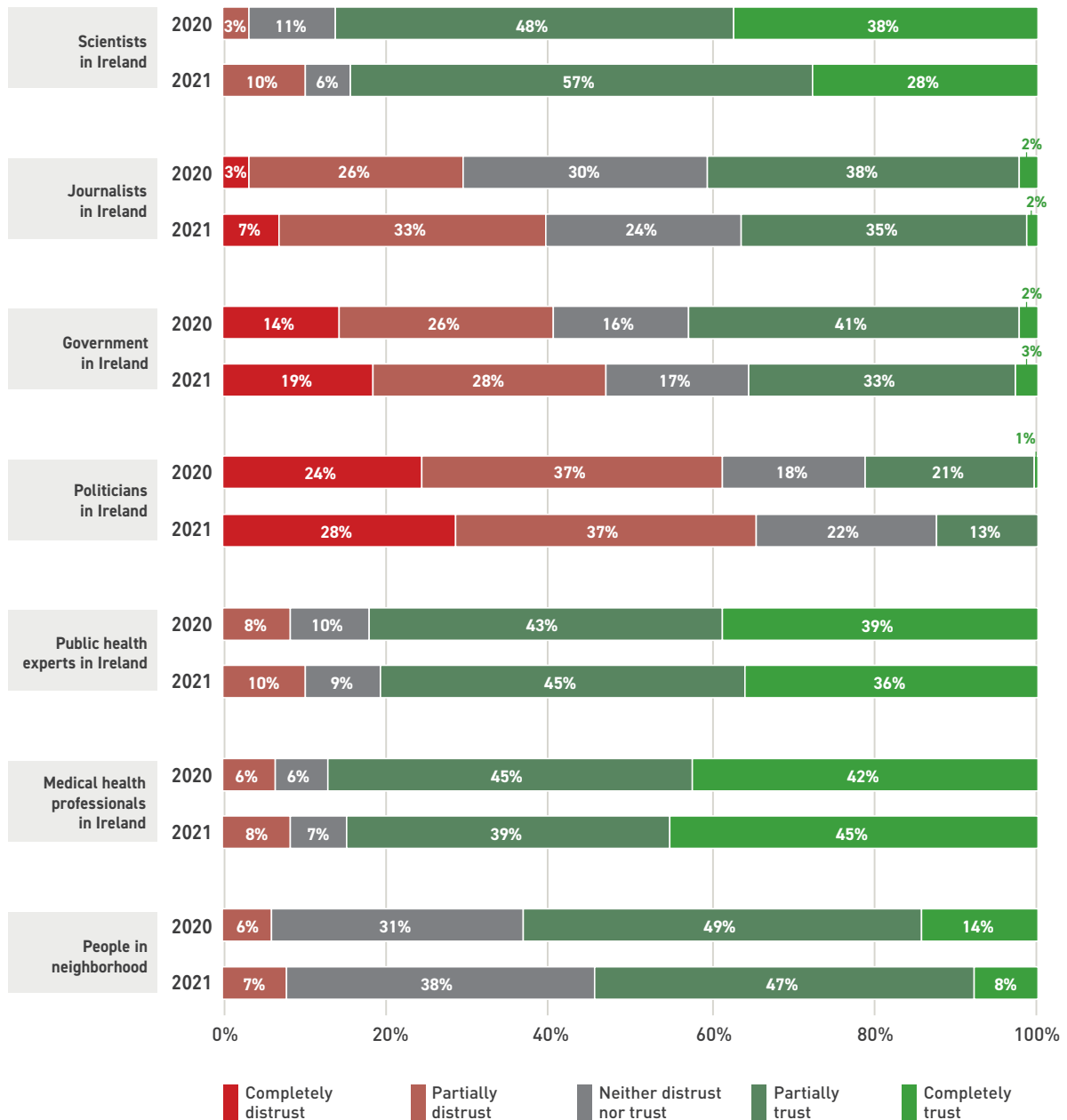
12   t(327) = 3.298, p = .001, d = 0.182
13   t(328) = 3.819, p = .000, d = 0.211
14   t(326) = 2.744, p = .006, d = 0.152
15   t(328) = 3.564, p = .000, d = 0.196
16   t(316) = 3.086, p = .002, d = 0.173
17   n (top to bottom): 331, 332, 330, 332, 332, 332, 332, 333, 333, 331, 334, 333, 326, 326.

2.2.3 | Trust in Scientists at Public and Private Institutions

The results for trust in scientists at public and private institutions show small and significant changes between 2020 and 2021. Overall, results show consistently higher levels of trust for scientists at public institutions (Figure 5) compared to private ones (Figure 6).

Scientists at Public Institutions

High levels of trust in scientists at public institutions have remained relatively stable, showing small decreases on all positive indicators of trust (Figure 5), including Information Accuracy (-4%; 74%), Useful Knowledge Creation (-1%; 87%), Public Benefit Intent (-2%; 79%)[18] and Funding Transparency (-5%; 61%). At the same time, small increases in distrust were evident on all indicators except for Funding Transparency.

Figure 5. Dimensions of Trust in Scientists at Public Institutions

Responses to levels of trust statements, "How much do you distrust or trust scientists at publicly-funded institutions in Ireland (such as universities) to:"[19]

Legend:
Completely distrust | Partially distrust | Neither distrust nor trust | Partially trust | Completely trust

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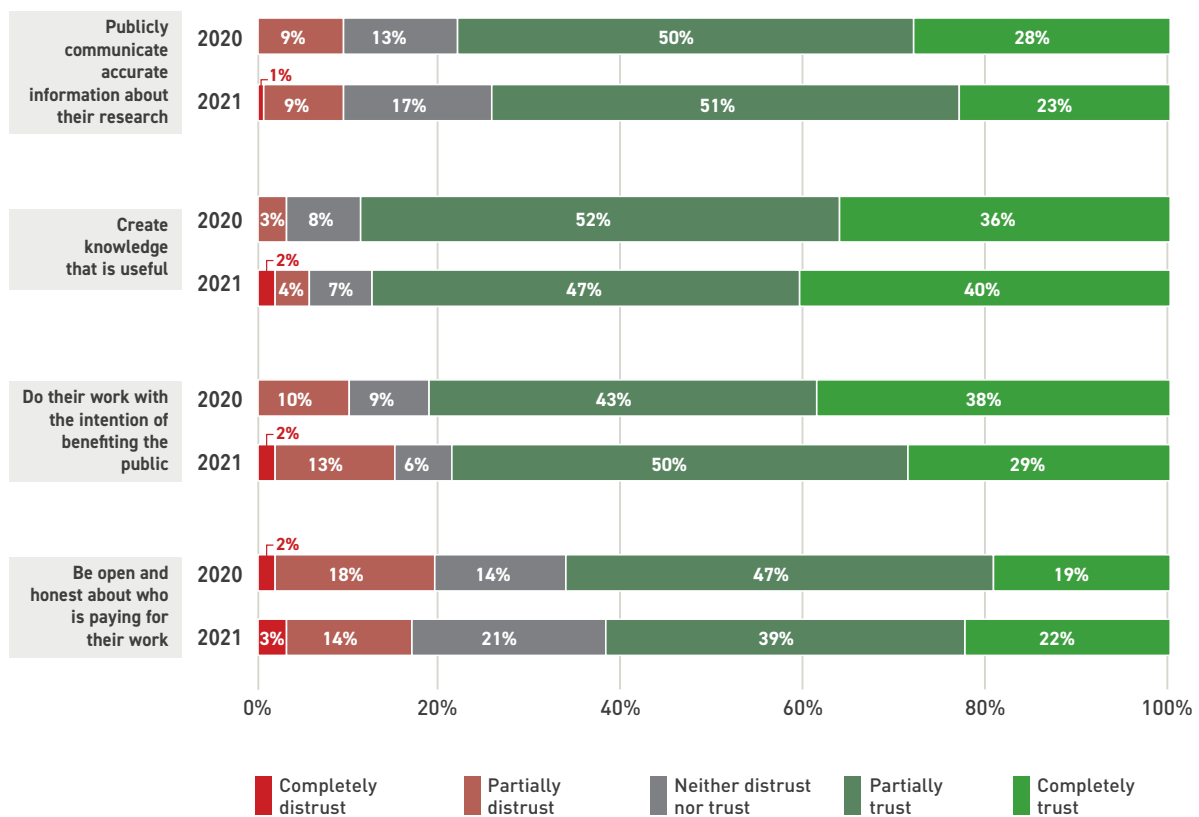
18    $t(319) = 2.526$, $p = .012$, $d = 0.141$

19   n (top to bottom): 325, 330, 324, 331, 324, 332, 318, 326. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

Scientists at Private Institutions

Overall, levels of public trust in scientists at private institutions have also remained stable on two positive indicators (Figure 6), namely, Public Benefit Intent (±0%; 49%)[20] and Information Accuracy (±0%; 48%). However, small decreases were evident for two positive indicators, specifically, Useful Knowledge Creation (-1%; 69%) and Funding Transparency (-12%; 33%).[21] Meanwhile, small increases in distrust were evident for all specific indicators for scientists at private institutions.

Figure 6. Dimensions of Trust in Scientists at Private Institutions

Responses to levels of trust statements, "How much do you distrust or trust scientists at private institutions in Ireland (such as companies) to:"[22]

20   t(319) = 2.526, p = .012, d = 0.141

21   t(314) = 2.070, p = .039, d = 0.117

22   n (top to bottom): 328, 328, 330, 328, 329, 329, 321, 328. To simplify the results for this report, the rounded percentages have been used to generate the 'shift'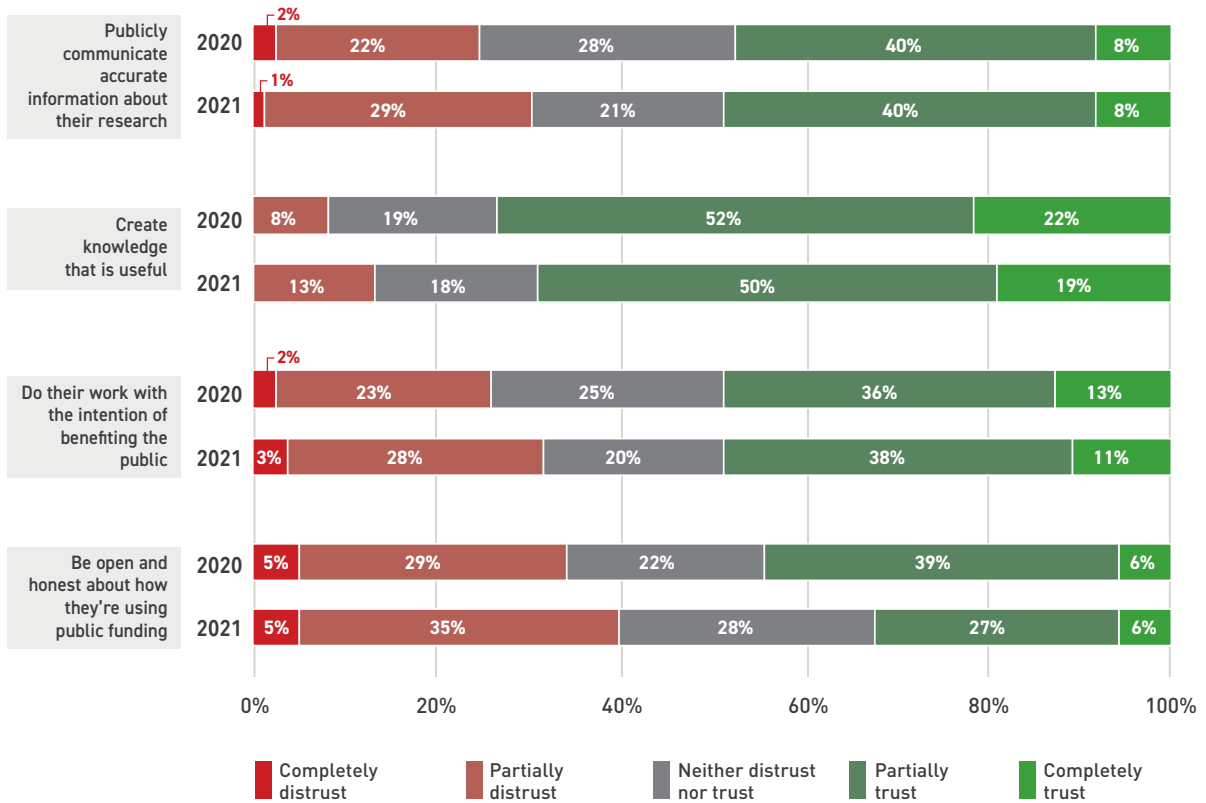 percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

2.3 | Perceptions of Science and Scientists

Section Summary

This section presents results on public attitudes or beliefs about *science* **and** *scientists***. These views include respondents' ideas about science and scientists, including the ease or difficulty of understanding and doing science (Figure 7 and 8).**

Compared to 2020, positive views increased regarding the 'importance [to be] informed about science' (+6%; 91%)[23]. Also shifting in an even more positive direction, there continued to be strong disagreement with the idea that 'science has no relation to [...] experience in the real world' (+7%; 95%)[24]. No changes in positive views were evident in the level of agreement with the idea that 'learning science changes my ideas about how the world works' (±0%; 90%) and 'science is useful in solving everyday problems in my life' (±0%; 79%). However, positive views also decreased on four measures, including 'With hard work, anyone can be a scientist' (-3%; 44%)[25], 'Nearly everyone is capable of doing science' (-8%; 65%)[26], 'Some people will always struggle with science' (-2%; 9%)[27], and 'Science is too difficult to understand' (-11%; 67%).

Figure 7. Perceptions of Science and Scientific Work

Responses to level of agreement statements, "To what extent do you disagree or agree [...]?"[28]
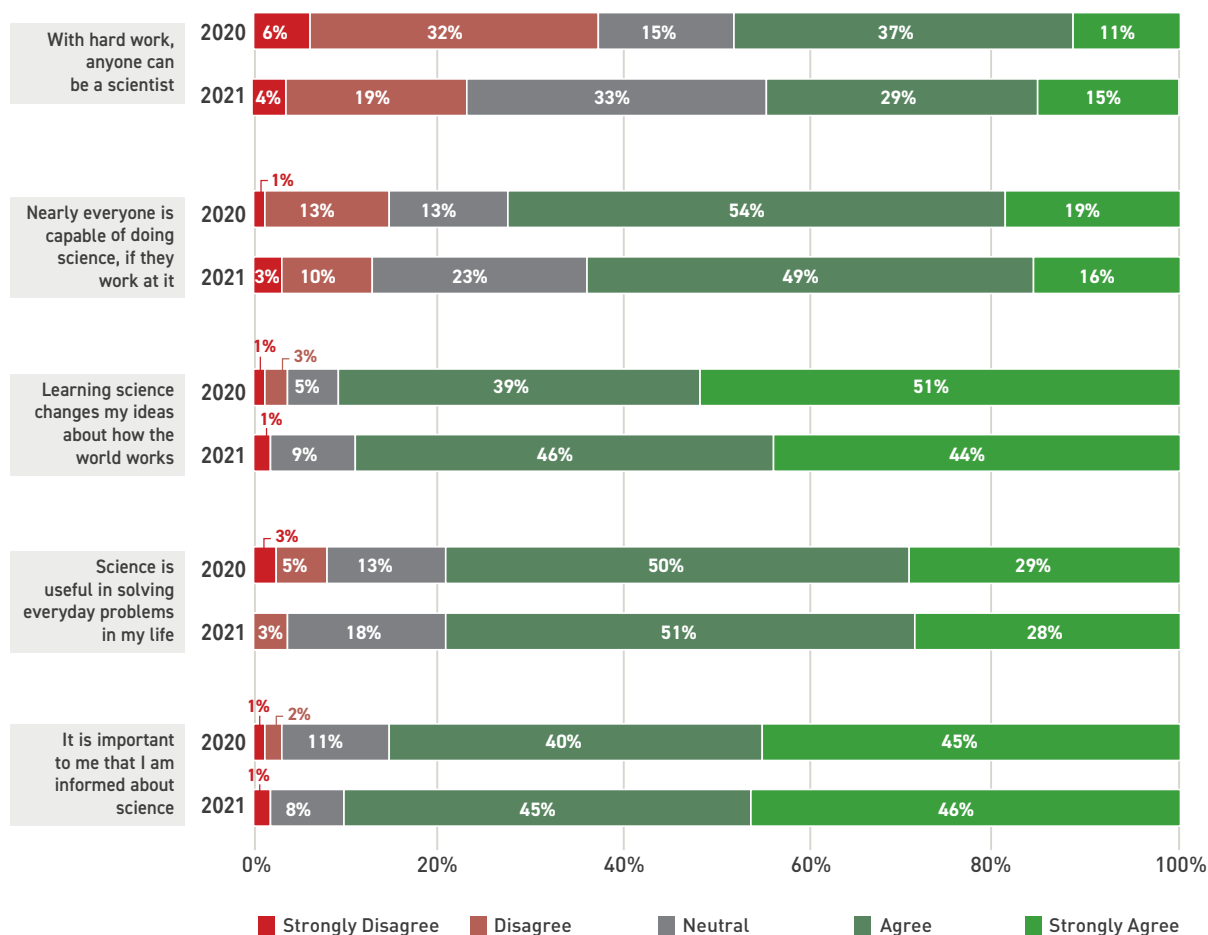
23   t(327) = -3.049, p = .002, d = -0.100
24   t(328) = 9.863, p = .000, d = 0.321
25   t(326) = -4.061, p = .000, d = -0.132
26   t(329) = 3.629, p = .000, d = 0.118
27   t(330) = -3.051, p = .002, d = -0.099
28   n (top to bottom): 333, 329, 334, 331, 332, 331, 333, 330, 332, 332. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

Figure 8. Perceptions of Science and Scientific Work (reverse-coded items)

Responses to level of agreement statements, "To what extent do you disagree or agree [...]?"[29]

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Some people will always struggle with science	2020	2%	9%	16%	62%	11%
	2021	3%	6%	18%	54%	20%
Science is too difficult to understand	2020	20%	58%	12%	7%	3%
	2021	27%	40%	23%	10%	
Science has no relation to what I experience in the real world	2020	48%	40%	7%	5%	1%
	2021	63%	32%	2%	3%	
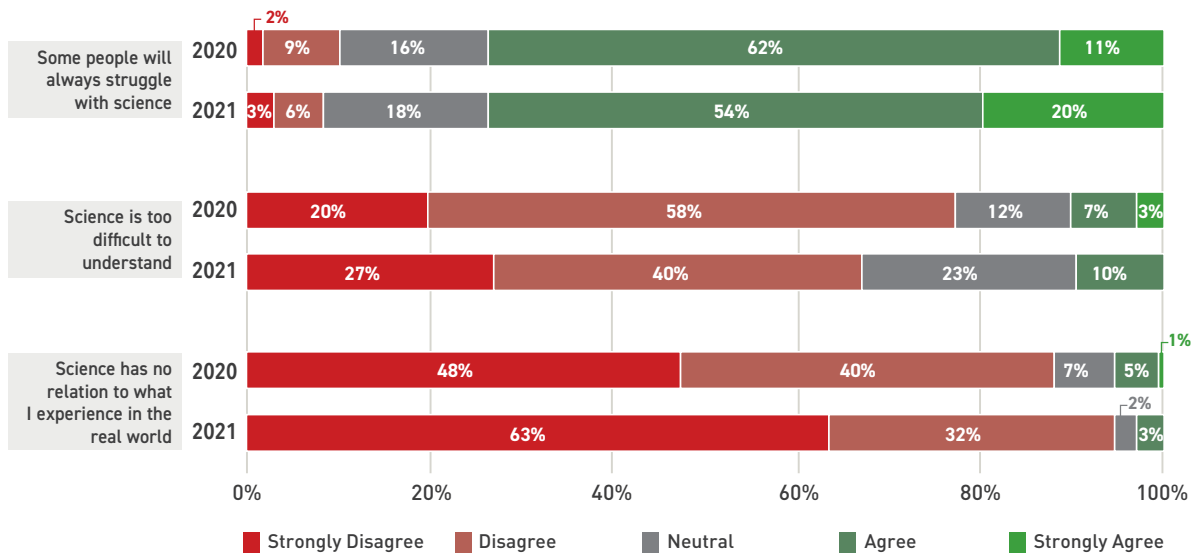
At the same time, results show that negative views have decreased towards most measures except for two, including small increase in agreement that 'Some people will always struggle with science' (+1%; 74%) and no change in agreement towards the view that 'Science is too difficult to understand' (±0%; 10%). Decreases in negative views were most evident in disagreement with views that 'With hard work, anyone can be a scientist' (-14%; 24%) and 'science is useful in solving everyday problems in my life' (-5%; 3%).
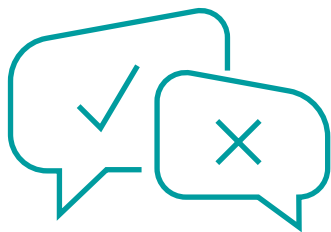
Results show that negative views have decreased towards most measures

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2.4 | Perceptions of Science in Public Policy

Section Summary

This section presents results on the public's opinions about government spending and investment in scientific research. These views also include broader ideas about the extent to which evidence should inform government policy and be considered a national priority (Figure 9 and 10).

Science benefits and national priorities

The 2021 results show a slight positive shift in attitudes about the value of science in public policy contexts. Indeed, most respondents held positive views by agreeing that 'scientific research should be a priority for our nation' (+3%; 78%) and disagreeing that 'scientific discoveries are doing more harm than good' (+3%; 85%)[30]. These results indicate that public opinion about scientific research remained highly positive.

Government spending and investment in scientific research

Most respondents hold positive views about government spending on science. This can be seen in the small increases in agreement in 2021 with positive views that 'public money spent on science is well worth spending' (+3%; 90%)[31] and that the government should spend 'more money on scientific research' (+4%; 76%). However, these increases in positive views seemed at odds with the reduced proportion of people holding positive views about how much money Ireland is spending on science. This shift was reflected in a lower rate of disagreement with the idea that the 'country is spending too much money on science' (-10%; 78%)[32].

Science in government policy

There was still strong support for using scientific evidence in government decision-making and policy in 2021, indicated by most respondents agreeing with the view that 'The government should look for scientific evidence when deciding how to solve problems' (+3%; 92%)[33] and 'Scientific evidence should guide government policy' (+3%; 86%)[34]. The measure with the largest increase in positive views was that 'The general public should have a say in how science develops' (+7%; 40%)[35]. At the same time, the consistently high level of 'neutral' response to this level of agreement statement, including a 6% increase in neutral responses in 2021, caution is warranted in interpreting the results from this item.

(+3%; 78%) respondents agree that **'scientific research should be a priority for our nation'** and (+3%; 85%) disagree that **'scientific discoveries are doing more harm than good'**

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30   t(329) = 4.203, p = .000, d = 0.137
31   t(329) = 3.276, p = .001, d = 0.106
32   t(300) = -4.058, p = .000, d = -0.141
33   t(329) = -2.196, p = .028, d = -0.071
34   t(323) = -2.894, p = .004, d = -0.097
35   t(325) = -6.014, p = .000, d = -0.199

Figure 9. Perceptions of Science in Public Policy

Responses to level of agreement statements, "To what extent do you disagree or agree [...]?"[36]

Legend: Strongly Disagree · Disagree · Neutral · Agree · Strongly Agree

Figure 10. Perceptions of Science in Public Policy (reverse-coded items)

Responses to level of agreement statements, "To what extent do you disagree or agree [...]?"[37]

Legend: Strongly Disagree · Disagree · Neutral · Agree · Strongly Agree
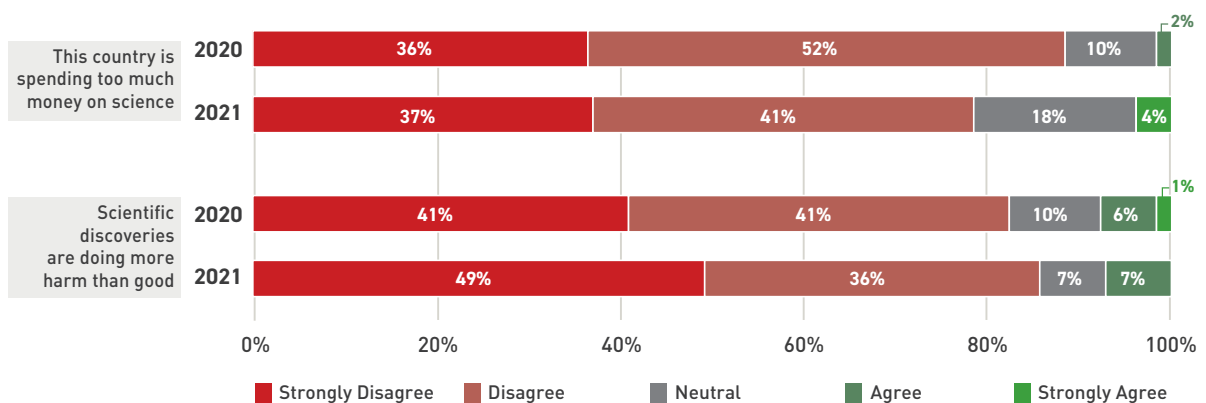
36   n (top to bottom): 333, 331, 328, 327, 330, 330, 333, 328, 331, 330, 331. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

37   n (top to bottom): 314, 313, 332, 333. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

2.5 | Perceptions of Science in Society

Section Summary

This section addresses the general public's views about the applicability and benefits of scientific research, including its contributions to solving problems for 'ordinary' people. Here, the general public's views about engaging in science and scientific research are included – meaning what 'most' people experience and do (Figure 11 and 12). Personal views about science and its role in people's lives are discussed in section 2.6.

Science benefits and usefulness

The results show a slightly improved picture for general views of science as beneficial or useful. There was a small increase in the proportion of people that feel that 'Science is making the world a better place' (+3%; 88%)[38]. Likewise, there was a slight improvement in the greater level of public rejection of the idea that 'science is too concerned with theory to be useful to the government when making policy decisions' (+2%; 77%)[39].

Science helps with real problems

Results were mixed on the topic of whether science is helping to fix real problems relevant to ordinary people. From 2020 to 2021, there was a substantial increase in positive views about the idea that '**science makes very little difference for fixing** real problems of ordinary people' (+10%; 77%)[40]. However, there was also a small decrease in positive views about whether '**science is failing to help** with the real problems of ordinary people' (-4%; 60%)[41].

Engagement with scientific research

At a personal level, there was a small increase in positive views that 'Scientific research is a priority for me' (+3; 60%). However, this survey item garnered higher levels of 'neutral' responses than the equivalent general opinion question about scientific research as a national priority, possibly signalling that many people struggled to interpret this level of agreement statement.

There was broad public support for the view that scientists should share research openly[42]. Yet there was slightly more resistance to the idea that its direction should be influenced by stakeholders, that is: 'people who will be directly affected by scientific research should have a say in how it develops'[43]. The high level of 'neutral' responses to this level of agreement statement in both 2020 and 2021 signals that many have not formulated a firm opinion on this issue, perhaps because it requires some contextual understanding of how the contemporary research enterprise works.

Diversity in Science

Finally, development in public opinion from 2020 to 2021 was mixed on the topic of whether more diversity in science is needed. On the one hand, there is increased agreement that there is a need for more gender diversity in science (+7%; 62%)[44]. On the other hand, there was a decrease in agreement that more ethnic diversity is needed in science in 2021 (-5%, 54%)[45]. Given the persistently high level of 'neutral' responses to these two statements, including a 15% increase in this neutral category for the ethnic diversity question, many people still do not have a clear view on these issues.

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38 t(330) = -2.504, p = .012, d = -0.081
39 t(316) = 2.506, p = .012, d = 0.083
40 t(328) = 3.029, p = .003, d = 0.099
41 t(318) = -3.241, p = .001, d = -0.109
42 t(328) = -2.400, p = .017, d = -0.079
43 t(323) = 3.264, p = .001, d = 0.108
44 t(149) = -3.126, p = .002, d = -0.163
45 t(139) = -5.397, p = .000, d = -0.263

Figure 11. Change in Views of Science in Society

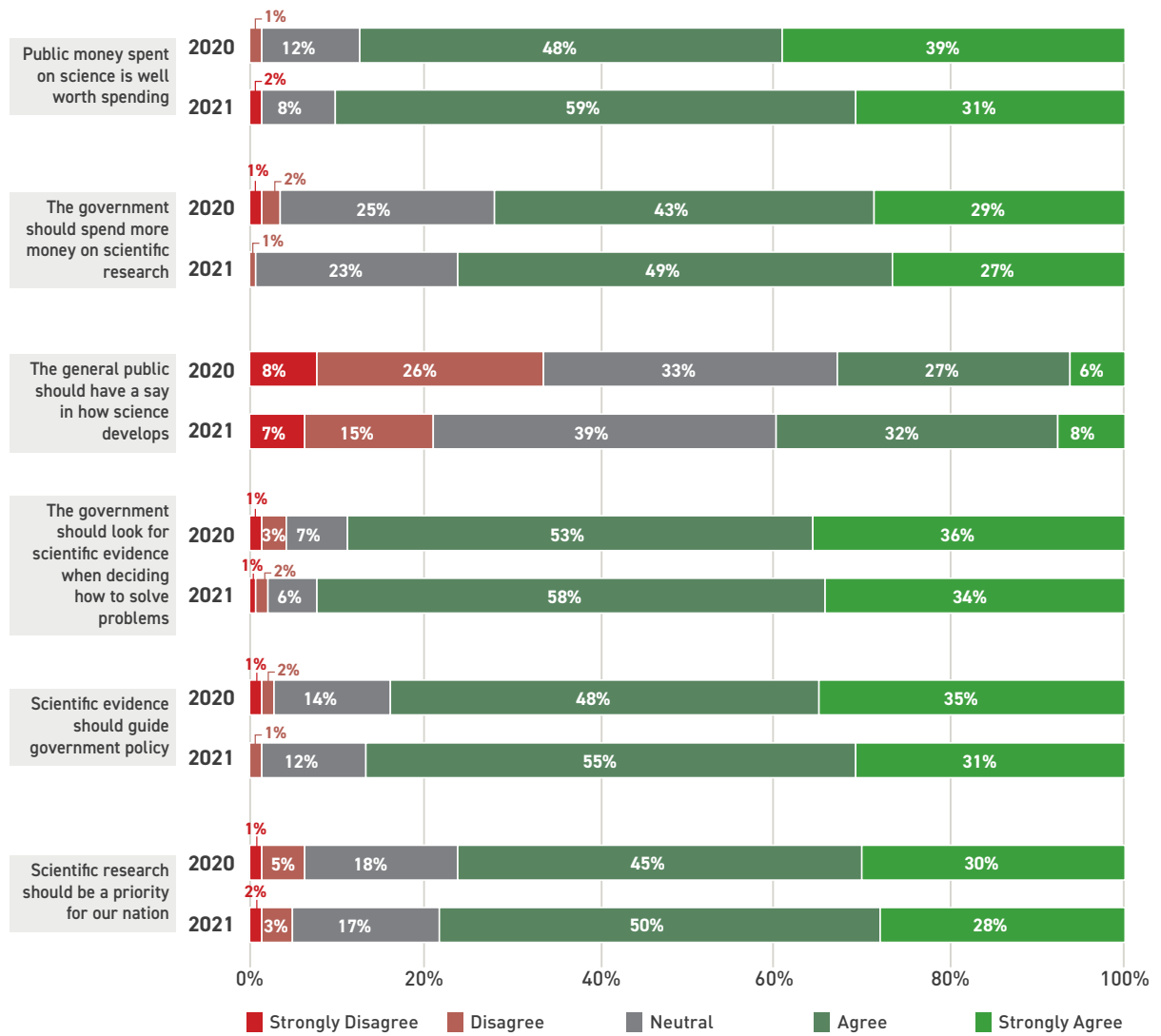Responses to level of agreement statements, "To what extent do you disagree or agree [...]"[46]
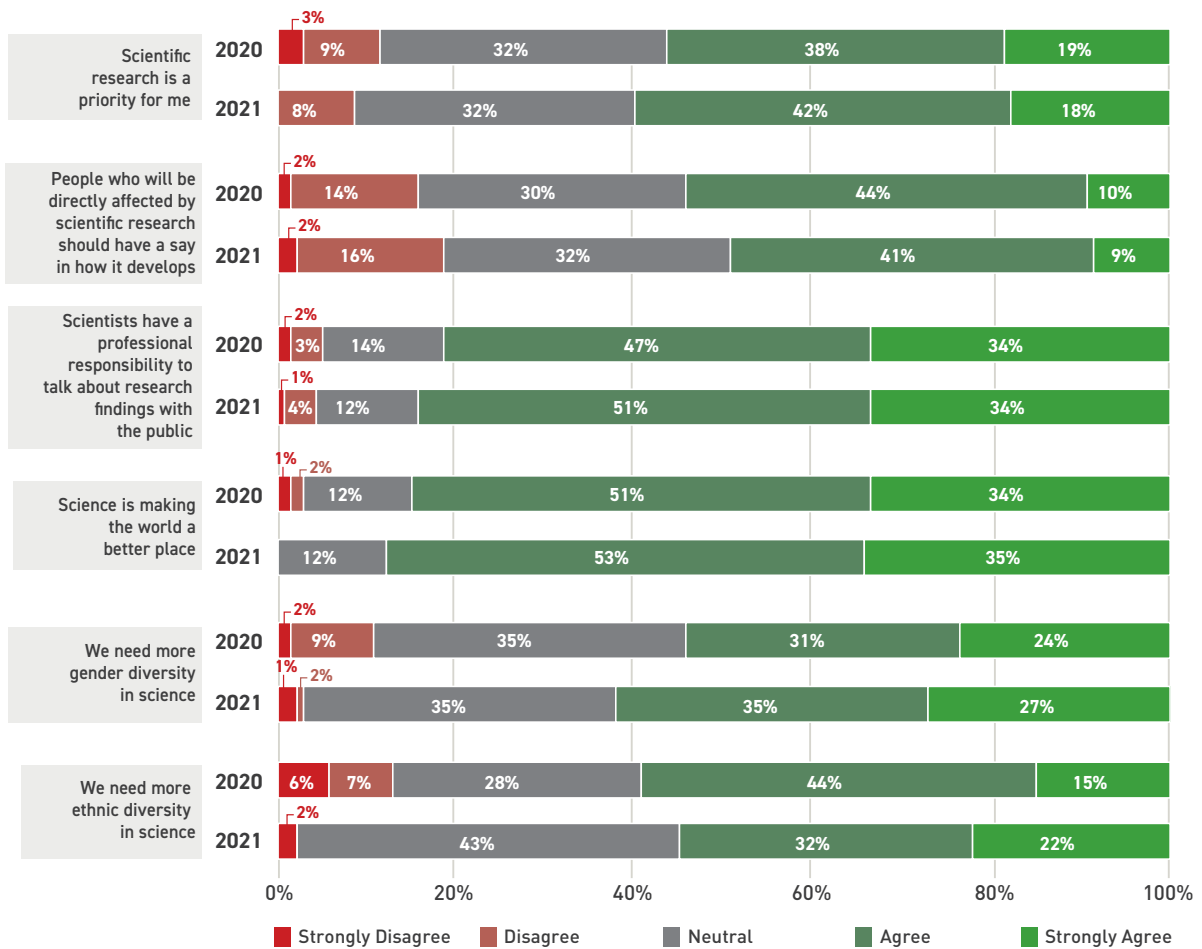
Figure 12. Change in Views of Science in Society (reverse-coded items)

Responses to level of agreement statements, "To what extent do you disagree or agree [...]"[47]
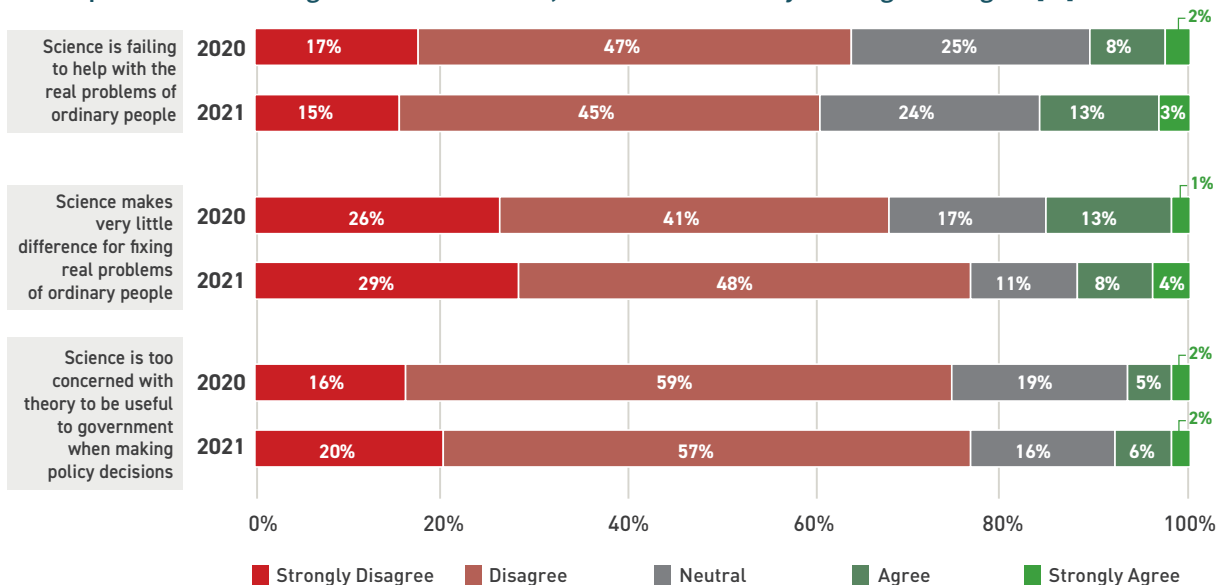
46   n (top to bottom): 325, 331, 332, 326, 332, 333, 333, 332, 161, 307, 149, 310. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

47   n (top to bottom): 325, 328, 332, 330, 326, 325. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

2.6 | Self-Perception of Science Capabilities

Section Summary

This section presents the results for personal views or beliefs about science understanding and capabilities, including whether the public considers themselves as capable of doing science (Figure 13 and 14). Personal views show how the Irish public relate to science and its role in their lives, while public opinion (section 2.5) focuses on what 'most people' experience or do.

Science understanding and capability

Results show a slight improvement in personal views about science understanding and capability. These improvements were reflected in small increases in positive views towards having a 'good understanding of science' (+4%, 71%)[48] and whether people see themselves as the type of person who can 'understand science' (+3%, 82%). At the same time, other slight improvements were evident in increasing positive views regarding feeling 'well informed about science' (+1%, 65%), albeit there were consistently high levels of 'neutral' responses to this level of agreement statement. The one exception to the positive trend in people's personal self-assessments relating to science was a very small decline in the proportion of people feeling *capable* of understanding science (-1%, 83%).[49]

Capability of doing science and being a scientist

Results were stable for personal views about themselves as capable of doing science or being a scientist. An improved picture was evident with most respondents indicating positive views towards whether (or not) they 'will always struggle with science' (+3%, 74%)[50] and with more respondents disagreeing that 'science is not for me' (+5%, 79%)[51]. However, slight declines were also evident in the degree of positive views about whether they can 'do science' (-2%, 69%) or 'be a scientist' (-1%, 48%). Overall, these results indicated that general views about understanding science were more positive than specific views about participating in science.

The one exception to the positive trend in people's personal self-assessments relating to science was a **very small decline in the proportion of people feeling capable of understanding science (-1%, 83%).**

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48   t(327) = -4.770, p = .000, d = -0.154
49   t(327) = -4.770, p = .000, d = -0.154
50   t(327) = 3.412, p = .001, d = 0.111
51   t(322) = 5.460, p = .000, d = 0.179

Figure 13. Self-Perceptions of Science Capabilities

Responses to level of agreement statements, "To what extent do you disagree or agree [...]"[52]

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
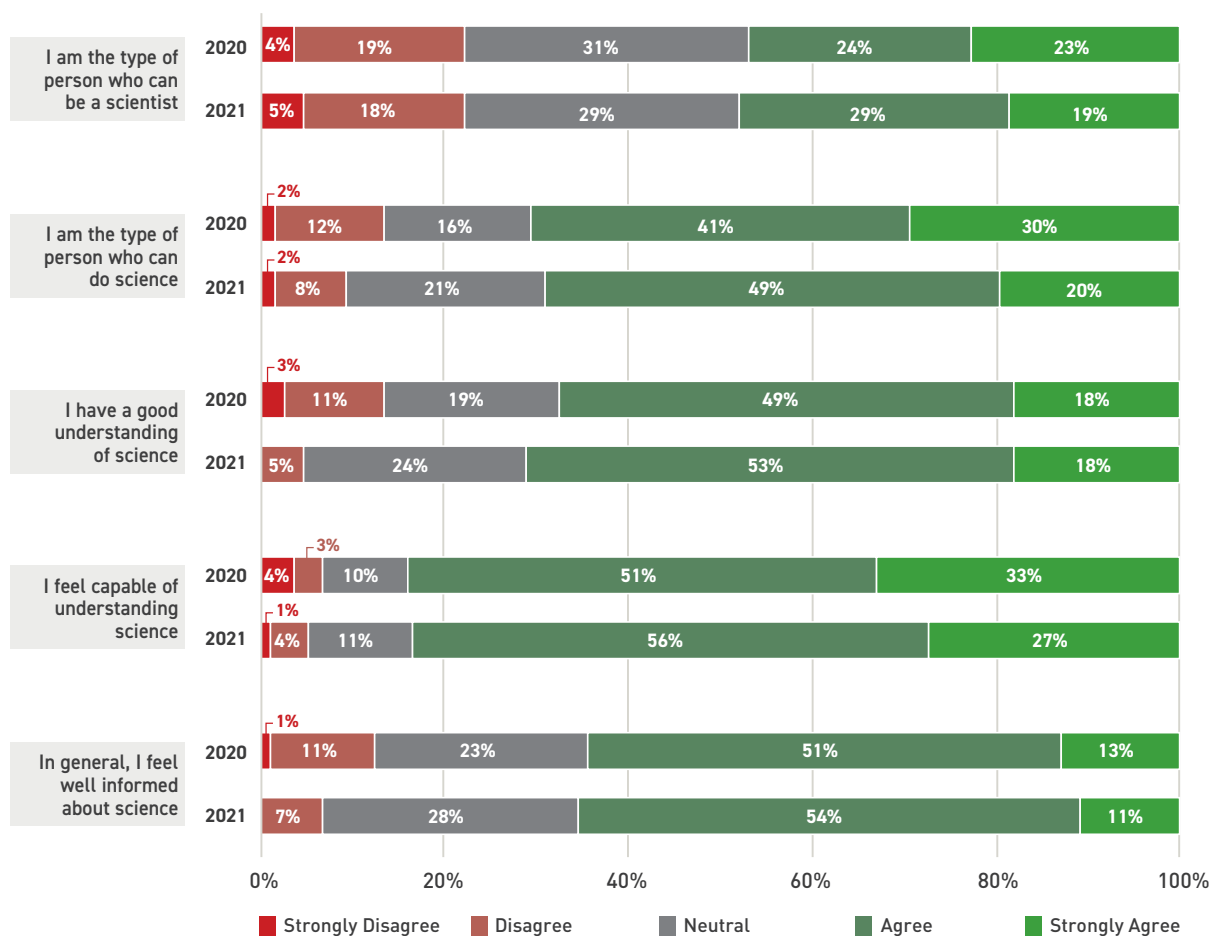
Figure 14. Self-Perceptions of Science Capabilities (reverse-coded items)

Responses to level of agreement statements, "To what extent do you disagree or agree [...]"[53]

| Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
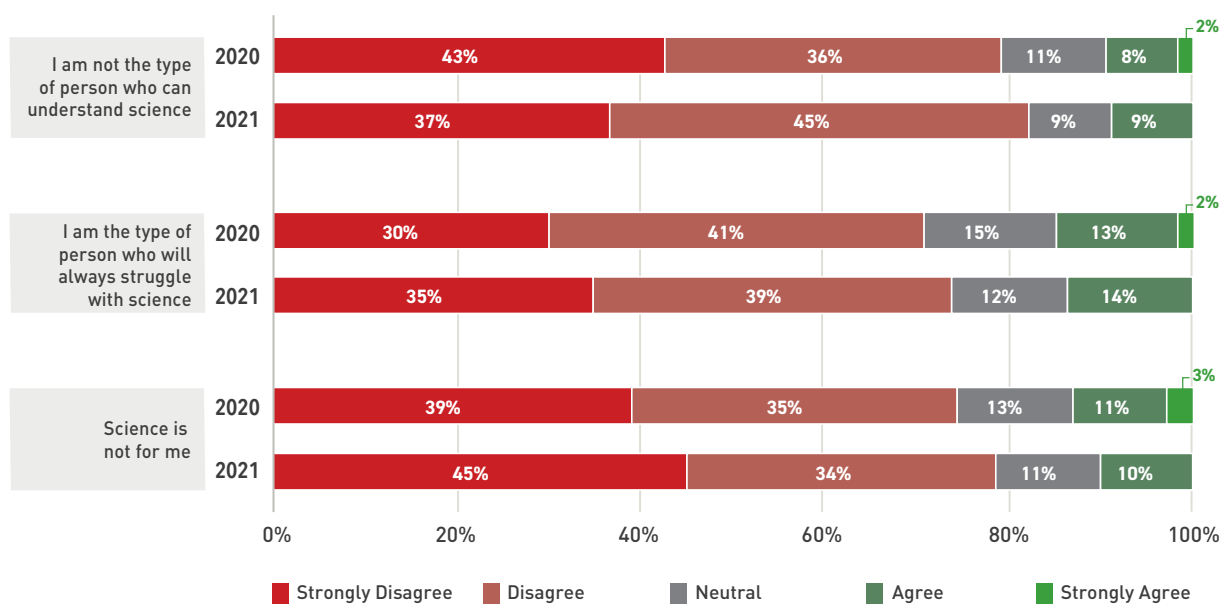
52 n (top to bottom): 329, 324, 331, 327, 334, 329, 332, 332, 332, 330. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

53 n (top to bottom): 332, 331, 332, 331, 332, 327. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

2.7 | News Consumption

Section Summary

This section presents results regarding the public's engagement with science news. This was measured by assessing the level of public engagement with different news topics, with science, technology, and health news as the key variables of interest. A range of news topics were included to allow for comparisons with science, technology, and health news (Figure 15).

Decrease in science news consumption

There is an overall shift towards less frequent science news consumption from 2020 to 2021. While there was an increase in the number of people checking 'science news' 2-3 times a week (+11%; 33%), those checking 'science news' 4-6 times a week decreased (-10%; 10%).

Popular news types

Compared to other news topics, respondents engaged most often with 'news in general' (daily: -5%; 65%). Particularly popular news types were 'health news' (44% daily) and 'government and politics' (43% daily). However, the proportion of respondents checking these two types of news daily decreased since 2020 (by -14% and -9%, respectively)[54]. The rate of respondents checking 'entertainment news' daily increased in 2021 (+5%; 13%), as did 'sports news' (daily: +10%; 31%)[55].

Particularly popular news types were **'health news' (44% daily)** and **'government and politics' (43% daily).**

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54    $t(330) = 2.179$, $p = .030$, $d = 0.120$

55    $t(328) = -4.326$, $p = .000$, $d = -0.239$

Figure 15. News Consumption by Topic

Responses to Likert-type statements, "Within the last 30 days, how often have you been following what's going on in:"[56]

Legend: Never | Once | 2-3 times | Once a week | 2-3 times a week | 4-6 times a week | Daily

GOVERNMENT & POLITICS
- 2020: 2%, 5%, 9%, 9%, 14%, 9%, 53%
- 2021: 1%, 6%, 8%, 10%, 19%, 13%, 43%

NEWS IN GENERAL
- 2020: 3%, 2%, 10%, 15%, 70%
- 2021: 1%, 3%, 7%, 10%, 14%, 65%

HEALTH NEWS
- 2020: 4%, 3%, 6%, 8%, 8%, 13%, 58%
- 2021: 3%, 3%, 5%, 10%, 20%, 16%, 44%

TECHNOLOGY NEWS
- 2020: 12%, 9%, 10%, 21%, 20%, 13%, 15%
- 2021: 17%, 9%, 14%, 15%, 19%, 12%, 14%

ART AND STYLE NEWS
- 2020: 36%, 9%, 16%, 19%, 9%, 5%, 6%
- 2021: 32%, 16%, 16%, 18%, 14%, 4%, 2%

POPULAR ENTERTAINMENT NEWS
- 2020: 17%, 5%, 20%, 21%, 22%, 8%, 8%
- 2021: 21%, 15%, 14%, 21%, 12%, 3%, 13%

SPORT NEWS
- 2020: 31%, 8%, 8%, 11%, 10%, 11%, 21%
- 2021: 26%, 10%, 5%, 9%, 10%, 9%, 31%

SCIENCE NEWS
- 2020: 7%, 5%, 15%, 18%, 22%, 20%, 13%
- 2021: 4%, 11%, 12%, 15%, 33%, 10%, 16%

56   n (top to bottom): 334, 332, 334, 333, 331, 329, 319, 314, 328, 321, 328, 326, 332, 332, 321, 315. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

3
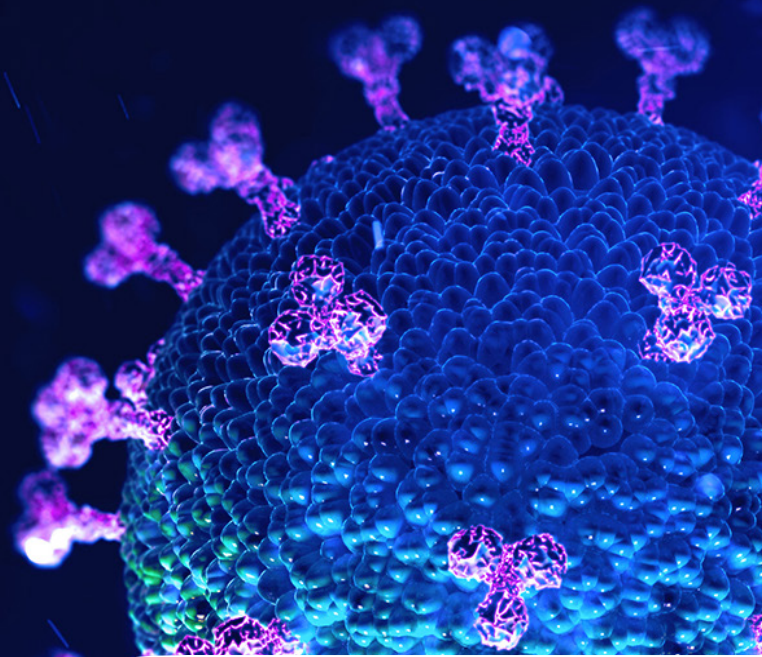
COVID-19 Results

3.1 | Perceptions of COVID-19 Impacts

Section Summary

This section presents results on the public's levels of familiarity with Coronavirus (COVID-19) and dimensions of the pandemic that affect respondents personally (Figure 16). The Irish public's understanding that 'getting sick with the Coronavirus (COVID-19) can be serious' remained nearly universal (+1%; 100%). Since 2020, there has been an increase in agreement that 'the Coronavirus (COVID-19) [will have/has had] a negative impact on many people in my community' (+11%, 83%)[57].

Despite the clarity about the seriousness and impact of COVID-19, people have become more optimistic about their own risk of getting sick with COVID-19. Specifically, there has been an increase in disagreement with the statement: 'I will probably get sick with the Coronavirus (COVID-19)' (+18%; 53%)[58].

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57   t(271) = -45.316, p = .000, d = -1.524
58   t(261) = 9.050, p = .000, d = 0.313

Figure 16. COVID-19 Personal Risk Perceptions

Responses to level of agreement statements, "How much do you agree or disagree [...]"

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Getting sick with the Coronavirus (COVID-19) can be serious 2020	1%			24%	75%
2021				28%	72%
I will probably get sick with the Coronavirus (COVID-19) 2020	6%	28%	50%	13%	2%
2021	21%	32%	36%	10%	2%
The Coronavirus (COVID-19) [will have/has had] a negative impact on many people in my community 2020	2%	11%	15%	42%	30%
2021	2%	5%	9%	51%	33%
The Coronavirus (COVID-19) situation has improved some aspects of my daily life 2020					
2021	13%	27%	13%	36%	11%

Finally, we found that more people (47%) felt that 'the Coronavirus (COVID-19) situation has improved some aspects of [their] daily life' compared to those who disagreed with this idea (40%). This was a new survey item in 2021 and therefore did not allow for comparison with 2020.

We found that (47%) of people felt that '*the Coronavirus (COVID-19) situation has improved some aspects of [their] daily life*'

3.2 | Perceptions of Mandatory COVID-19 Vaccinations

Section Summary

This section presents results about views on Coronavirus (COVID-19) vaccination requirements. At the time of the first phase of this research in 2020 (July-September), vaccines were in the very early stages with only initial clinical trial testing a couple of months underway. Now, in the second phase of this research, vaccines have been rolled out across Ireland.

3.2.1 | Acceptance of Mandatory Vaccination

Since 2020, most respondents still indicated views 'everyone in Ireland' (-14%; 66%)[59] should be required to get the vaccine, although the level of agreement has waned significantly (Figure 17). Similarly, there was strong support (agreement) that vaccinations should be required for 'everyone arriving in Ireland from another country' (76%), a new question introduced in 2021.

Figure 17. Acceptance of Mandatory COVID-19 Vaccines

Response to Likert-type statements, "How much do you disagree or agree [...]"[60]

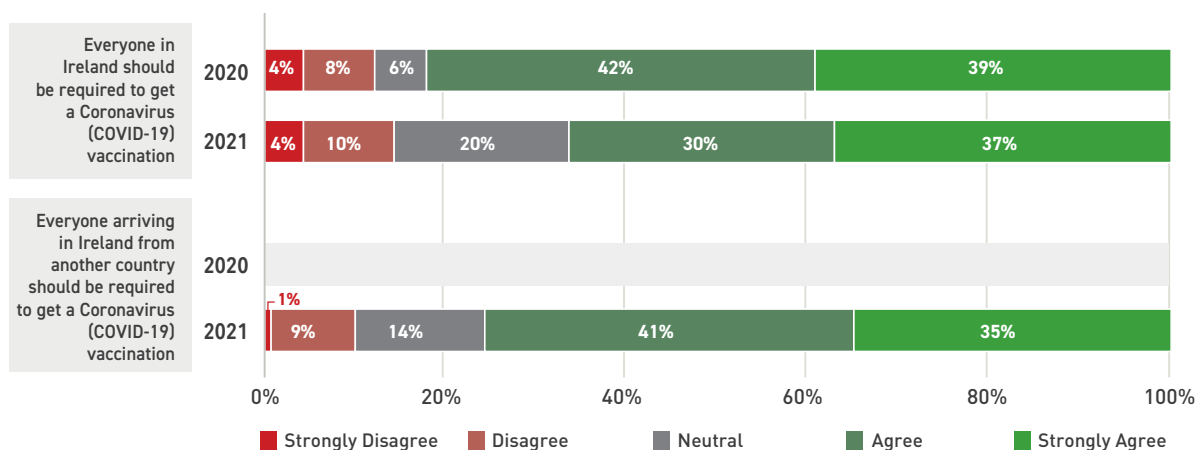### 3.2.2 | Acceptance of Mandatory Proof of Vaccination

Results also show the range of views about whether proof of vaccination should be required in different social contexts, job types and activities. These scenarios for proof of vaccination included travelling, attending in-person events, taking part in education or leisure activities, visiting long-term care or medical facilities, and different roles as frontline workers.

Travelling

Overall, results show much greater support for proof of vaccination for international rather than for local travel (Figure 18). For travelling internationally, majorities indicated support (usually or always) that proof of vaccination should always be required 'by plane' (81%) and 'by ferry' (78%). At the same time, views about travelling locally were more split with more respondents opposing (rarely or never) mandatory proof of vaccination when travelling locally on 'public transportation' (40%) or by 'taxi or rideshare' (52%).

59　t(273) = 6.050, p = .000, d = 0.204

60　n (top to bottom): 278, 385, 282. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

Figure 18. Acceptance of COVID-19 Vaccine Mandates for Travelling

Response to levels of support statements, "Require vaccination for travelling?"[61]
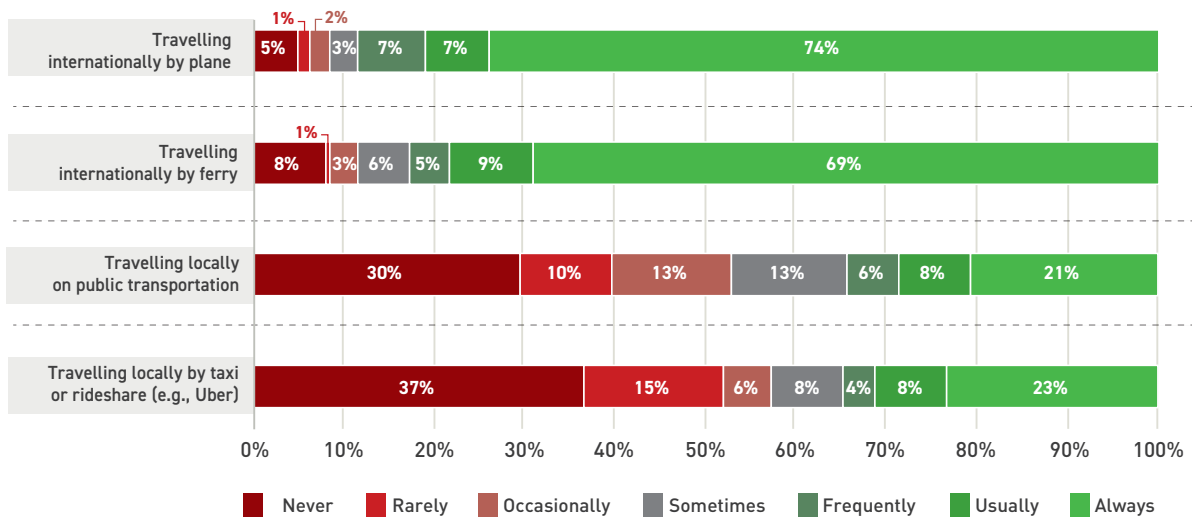
Attending in-person events

With regards to in-person events and gatherings, results show levels of support for proof of vaccination based on the size of events and the number of people in a gathering (Figure 19). Overall, large in-person events (1000+ people) had more support than small events (less than 50 people). For example, most respondents indicated support that proof of vaccination should usually or always be required at large in-person events, regardless of whether events are held 'indoor' (69%) or 'outdoor' (64%). However, views about proof of vaccination for small in-person events were more mixed, with fewer respondents indicating support (usually or always) regardless of 'indoor' (42%) or 'outdoor' (31%) events. These lower levels of support for small in-person events were reflected by the opposing view that proof of vaccination should rarely or never be required for small in-person 'outdoor' (38%) events.

Figure 19. Acceptance of COVID-19 Vaccine Mandates for In-person Events

Response to levels of support statements, "Require vaccination for in-person events?"[62]
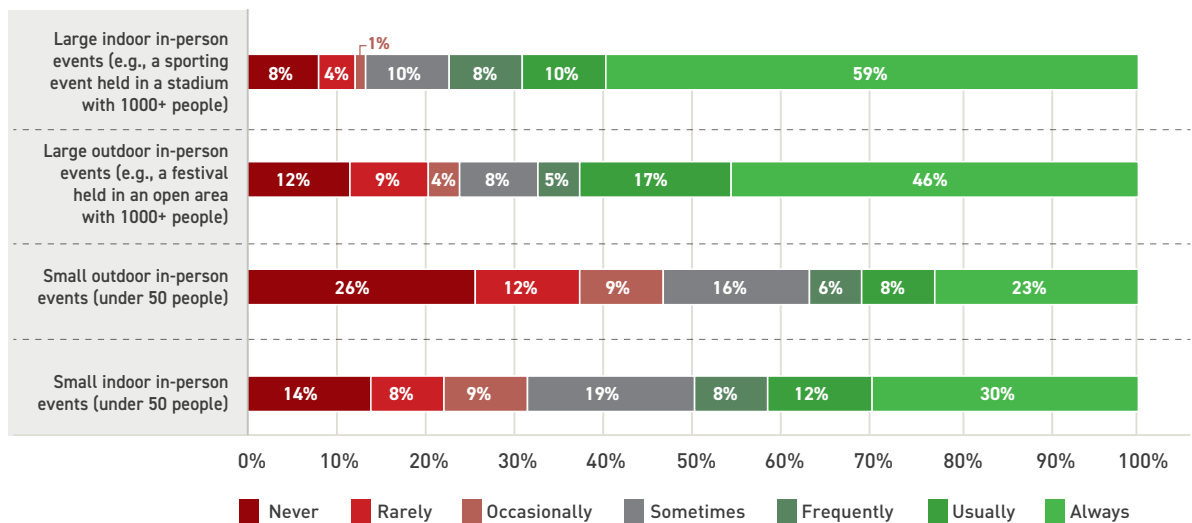
61 n (top to bottom): 280, 278, 273, 270. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

62 n (top to bottom): 273, 272, 270, 272. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

Taking part in leisure or other in-person activities

Results show split views about whether proof of vaccination should be required for leisure and other in-person activities (Figure 20). Regardless, the highest levels of support (usually or always) for requiring proof of vaccination included 'Eating or drinking indoors' (46%), 'Exercising indoors' (43%) and either 'Watching film in cinema' (42%) or 'Viewing live theatre' (42%). At the same time, the highest levels of opposition (rarely or never) were indicated for 'Visiting a public park' (75%), 'Visiting a zoo' (55%) and 'Shopping at a mall' (46%).

Figure 20. Acceptance of COVID-19 Vaccine Mandates for Leisure or other In-person Activities

Response to levels of support statements, "Require vaccination for leisure and other in-person activities?"[63]

Activity	Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Always
Visiting an amusement park	28%	11%	11%	14%	5%	9%	22%
Visiting a zoo	38%	17%	7%	12%	4%	11%	11%
Visiting a museum	22%	13%	10%	17%	9%	9%	20%
Visiting a public park	67%	8%	8%	6%		4%	6%
Watching a film at the cinema	17%	8%	16%	12%	4%	15%	27%
Viewing live theatre	16%	9%	11%	17%	5%	14%	28%
Shopping at a mall	41%	5%	11%	11%	5%	10%	16%
Eating indoors at a restaurant	21%	5%	13%	11%	5%	16%	30%
Drinking indoors at a bar or pub	16%	12%	10%	7%	8%	13%	33%
Attending university classes in person	19%	9%	6%	20%	7%	8%	31%
Exercising indoors (e.g., gyms or leisure centres)	18%	10%	6%	8%	15%	15%	28%

63 n (top to bottom): 260, 270, 272, 272, 272, 271, 263, 273, 271, 269, 270. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.
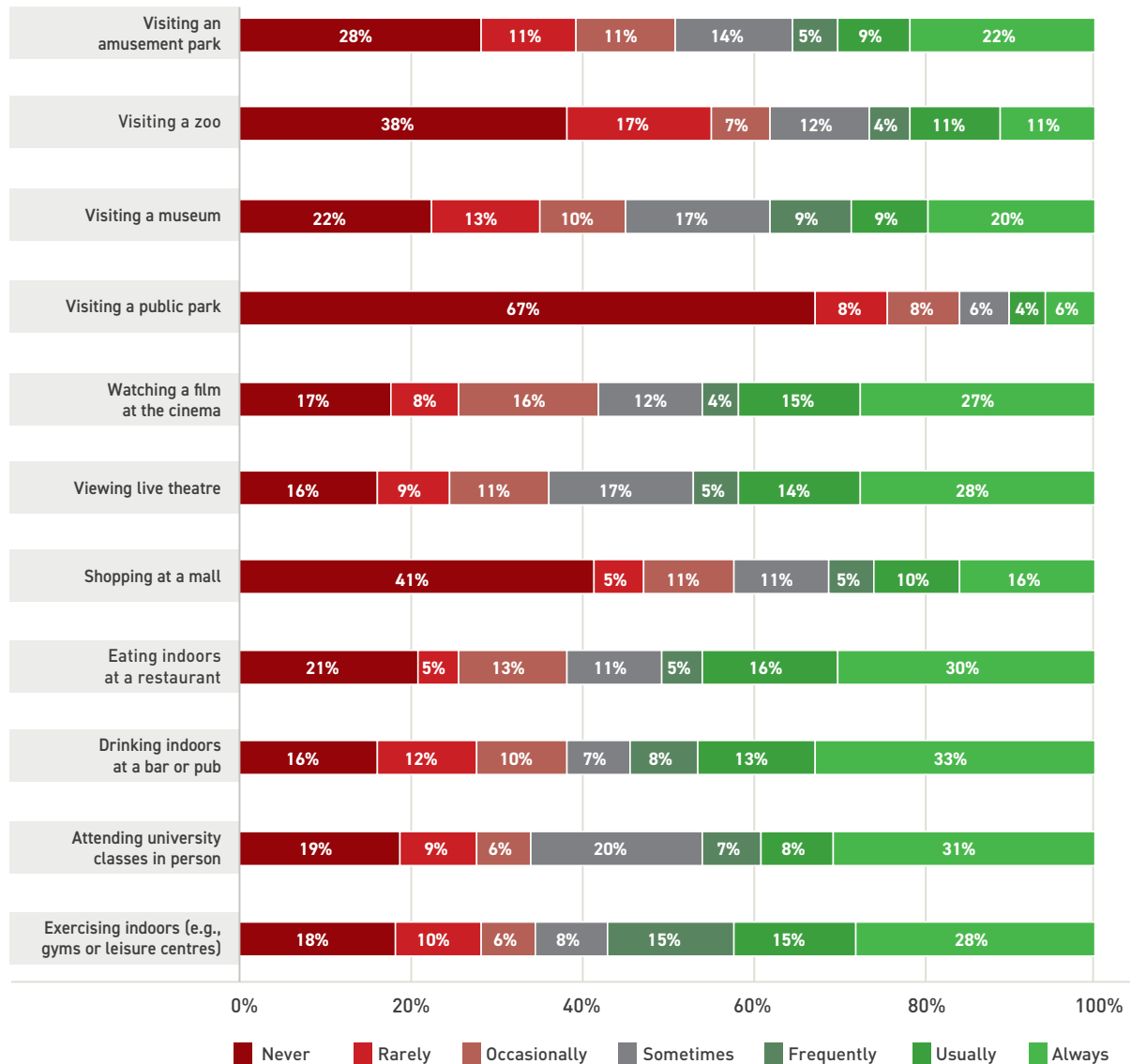
Visiting long-term care or medical facilities

Results show majority support for proof of vaccination when visiting long-term care or medical facilities (Figure 21). Most respondents indicated support to usually or always require proof of vaccination when visiting 'relatives at long-term care' (61%) and 'medical' (51%) facilities, although higher opposition was indicated for medical facilities (24%).

Figure 21. Acceptance of COVID-19 Vaccine Mandates for Long-term Care or Medical Facilities

Response to levels of support statements, "Require vaccination for other in-person activities?"[64]
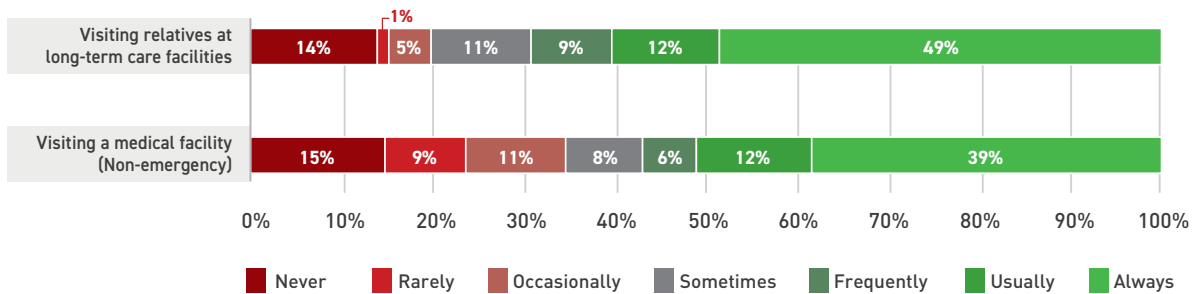
Different roles as frontline workers

Results show supporting and opposing views for whether proof of vaccination should be required for different frontline, public-facing workers (Figure 22). A majority (more than 50%) of respondents thought all frontline workers should usually or always be required to show proof of vaccination, except for 'workers in haulage and transport of goods' (35%). The highest levels of support for requiring proof of vaccination were for workers in 'healthcare' (83%), 'public transport (e.g., bus drivers)' (63%) and 'food service (e.g., waiters)' (61%). There was somewhat lower support for vaccine mandates for teaching and office professions.

More than **50%** of respondents thought all frontline workers should usually or always be required to show **proof of vaccination**

64   n (top to bottom): 280, 275. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

Figure 22. Acceptance of COVID-19 Vaccine Mandates for Frontline Workers

Responses to levels of support statements, "Mandatory vaccines for frontline workers?"[65]

	Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Always
School teachers	16%	2%	5%	4%	15%	8%	51%
University professors	18%	1%	5%	11%	13%	11%	42%
University professors	10%	3%	4%	7%			76%
Food service workers (e.g., waiters)	15%	5%	1%	10%	7%	12%	49%
Public transport workers (e.g., bus drivers)	16%	3%	3%	8%	7%	12%	51%
Office workers (e.g., using shared spaces in a building)	18%	4%	7%	13%	6%	12%	40%
Workers in haulage and transport of goods	19%	12%	7%	20%	6%	7%	28%

65   n (top to bottom): 270, 266, 276, 269, 268, 265, 262. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

3.3 | Priorities in Government Decisions about COVID-19

Section Summary

Results in this section explore public views on priorities affecting government decisions during the pandemic (Figure 23). Specifically, respondents were asked to share views about factors being prioritised by the government compared to what the government should be prioritising in its decision-making. In this section, we have identified stable factors were indicated with little or no change from 2020 to 2021. At the same time, shifting factors were evident based on noticeable or significant changes in whether respondents felt consideration for factors were being given by the government.

Views of Factors Government is Considering

Results show both stability and change in factors people thought were most important to the government making decisions about how to handle the Coronavirus (COVID-19) situation. The three most stable factors include 'Public opinion' (+2%; 16%), which was given slightly more consideration, and 'Minimising disruption' (-3%; 15%) and 'Economic factors' (-1%, 62%), which were both given slightly less consideration. At the same time, the four factors that underwent change from 2020-21 were 'Political factors' (+14%; 45%) and 'Scientific evidence' (+7%; 57%)- the respondents felt these were given more consideration than before- and 'Advice from medical doctors' (-12%; 51%) and international factors (-9%; 24%), which people felt were given less consideration than before.

Views of Factors Government should be Considering

Results also show stability and change in factors respondents viewed were most important to them, and thereby, should be most important to the government. Comparatively, five stable factors include 'Scientific evidence' (+4%; 93%), 'Advice from medical doctors' (+2%; 76%), and 'Public opinion' (+3%; 12%) which respondents felt should be given more consideration, whereas respondents felt that 'Economic' (-3%; 47%) and 'Political' (-2%; 0%) factors should both be given less consideration. Notably, respondents felt that the government should be giving no thought to political factors when making decisions about how to handle the Coronavirus (COVID-19) situation.

Respondents felt that government should give more consideration to 'Minimising disruption to normal life' (+11%; 35%). Furthermore, people felt that government should give less consideration to 'International influences' (-9%; 7%).

Gap Analysis: Reasons for Change

Finally, results show gaps between factors that people indicated were most important to them and factors that should be most important to the government, as well as the reason for changes. Three factors resulted in the largest increase in gaps including 'Political factors' (+16%; 45%), 'Minimising disruption' (+14%; 20%) and 'Advice from medical doctors' (+14%; 25%). However, different causes were indicated for these increased gaps. For example, the 'Political factors' gap increased because respondents felt that the government was giving more consideration (+14%) in 2021 while they also felt it should give less consideration (-2%). More specifically, it was clear that the public felt the government should give no weight to political factors when making decisions about how to handle the Coronavirus (COVID-19) situation. The gaps for 'Minimising disruption' and 'Advice from medical doctors' increased because the public felt the government should give more consideration (+11%, +2%) than it was (-3%, -12%) to these factors.

Figure 23. Comparison of Government and Public Priorities for Dealing with the Pandemic

Responses to questions, "In your view, when making decisions about how to handle the COVID-19 situation: Which [...] is government considering the most?", "Which [...] should government be considering the most?"[66]

Which of the following is the government considering the most?
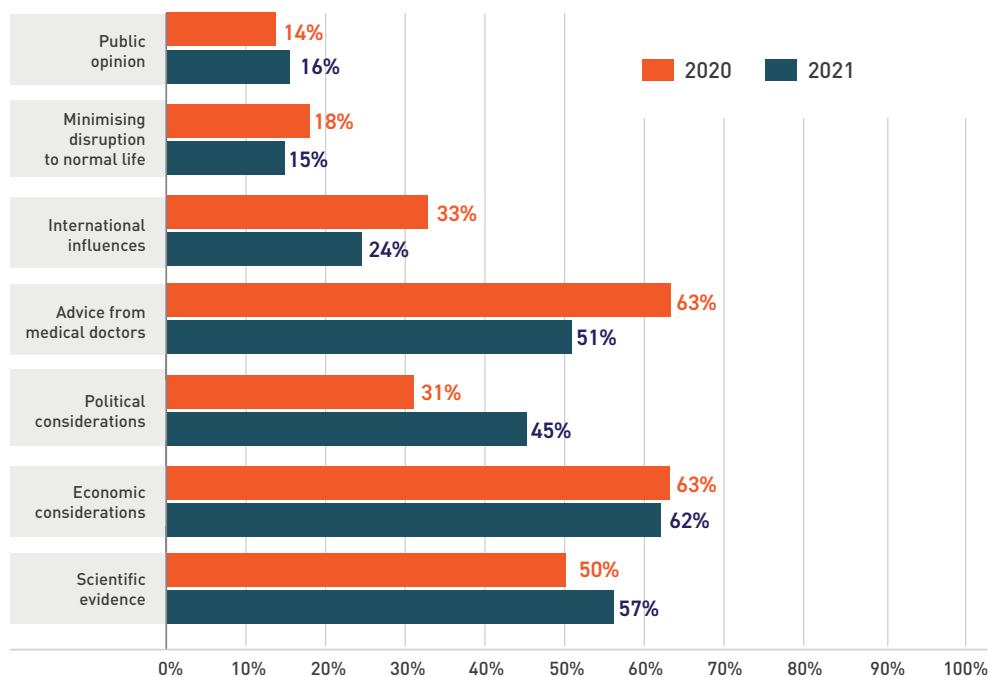
Which of the following should the government consider the most?
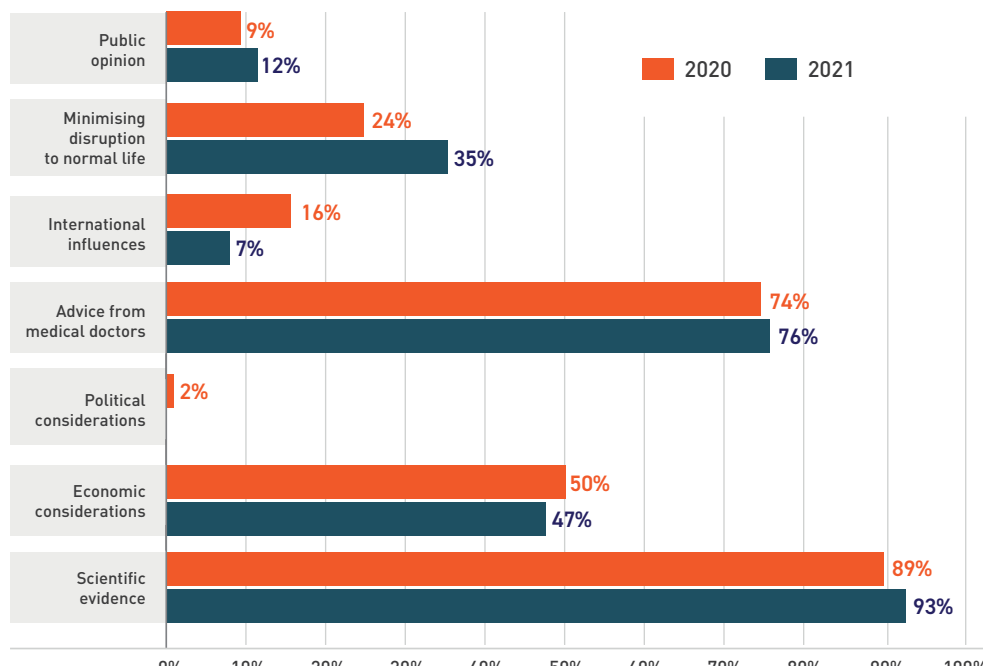
66   n (top to bottom): 279, 284, 278, 286. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

3.4 | Change in Personal Situation due to COVID-19 Pandemic

Section Summary

This section presents results relating to changes in personal situations (health and work) linked to the COVID-19 pandemic and the prevalence of respondents who reported receiving vaccinations.

3.4.1 | Prevalence of COVID-19 Work-related Situations

In 2020, respondents indicated that they had 'Started working from home' (44%), were 'Laid off, furloughed or job suspended' (16%), or had their 'work hours reduced' (15%) because of the pandemic (Figure 24). Compared to 2020, the most substantial shift indicated by respondents was that work-related situations were no longer applicable (+30%; 59%). In 2021, fewer respondents indicated they had 'Started working from home' (-21%; 23%), had been 'Laid off, furloughed or job suspended' (-6%, 9%), or had 'Work hours reduced' (-6%; 9%) because of the pandemic. However, it was also evident that the COVID-19 pandemic has resulted in declines for those who reported having 'Lost a job' (+2%; 4%). Finally, 8% of respondents indicated that they started a 'New job remotely' (8%) in 2021.

Figure 24. Prevalence of Work-related Situations due to COVID-19

Responses to question, "Which of the following work-related situations apply [...] because of the Coronavirus (COVID-19)?"[67]
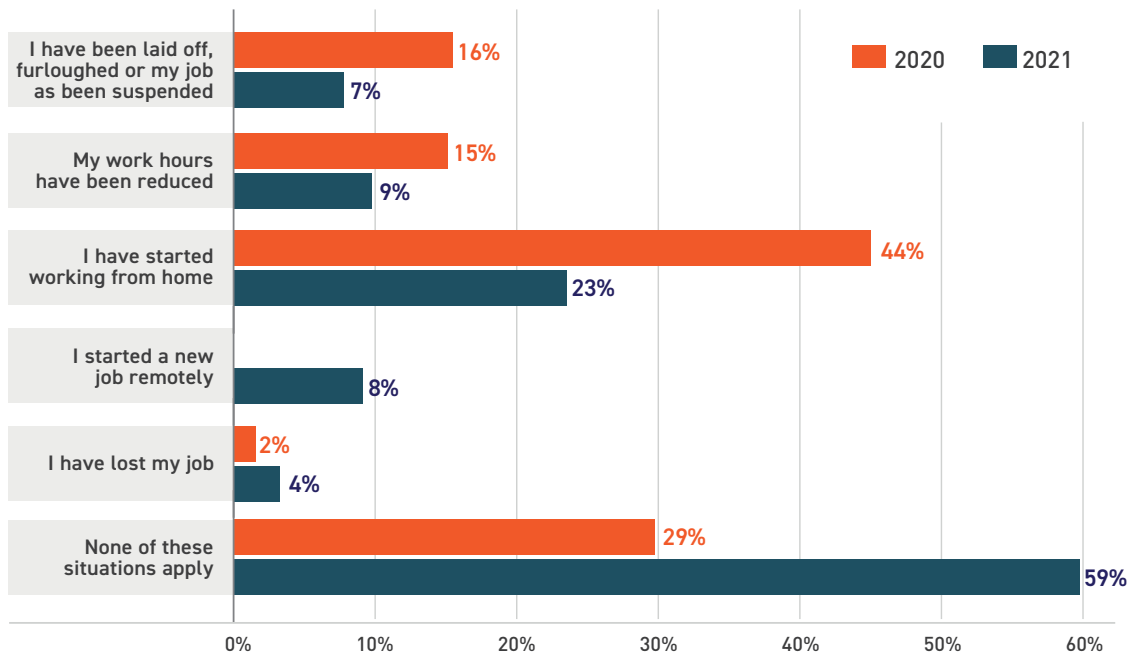
67   n (top to bottom): 165, 269. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

3.4.2 | Prevalence of Health Circumstances due to COVID-19

Compared to 2020, most respondents still indicated that no health circumstances were applicable (-3%; 58%), although the prevalence of this response decreased slightly (Figure 25). In 2021, slight improvements were indicated by a lower prevalence of 'severe tensions in the household' (-2%; 16%). However, it was also evident that the COVID-19 pandemic has resulted in some declines for mental health (+9%; 40%), with a greater prevalence indicating feeling negatively affected. No changes were reported for whether respondents needed to 'Postpone major medical treatment' (±0%; 6%).

Figure 25. Prevalence of Health Circumstances due to COVID-19

Responses to question, "Do any of the following health-related situations apply [...] because of the Coronavirus (COVID-19)?"68
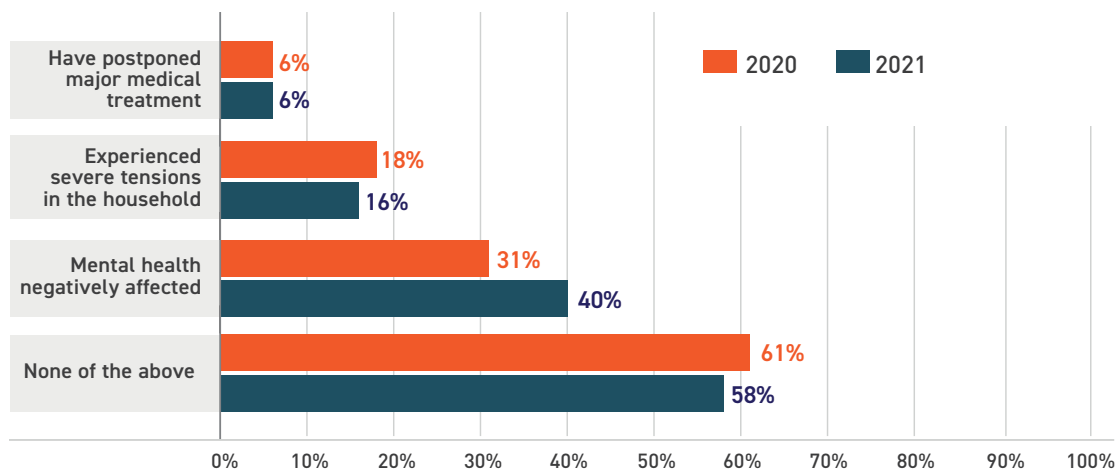
3.4.3 | COVID-19 Vaccinations

While most respondents still thought they had not contracted COVID-19 (-8%; 79%), there was a noticeable increase in 2021 with those who felt they had (Figure 26). Most respondents indicated they had already received the COVID-19 vaccine (85%) by 2021 (Figure 27), with the most indicating they had received either BioNTech/Pfizer (59%), AstraZeneca (31%) or Moderna (8%) (Figure 28). For those already vaccinated, most respondents indicated having received two doses (85%) (Figure 29).
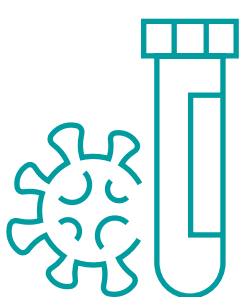
Most respondents still thought they had not contracted COVID-19 **(-8%; 79%)**, *there was a noticeable increase in 2021 with those who felt they had*

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68   n (top to bottom): 256, 260. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

Figure 26. Change in Perception of COVID-19 Contraction

Responses to question, "Have you ever had, or thought you might have, the Coronavirus (COVID-19)?"[69]

Have you ever had, or thought you might have, the Coronavirus (COVID-19)?	No	Yes
2020	87%	13%
2021	79%	21%

No   Yes
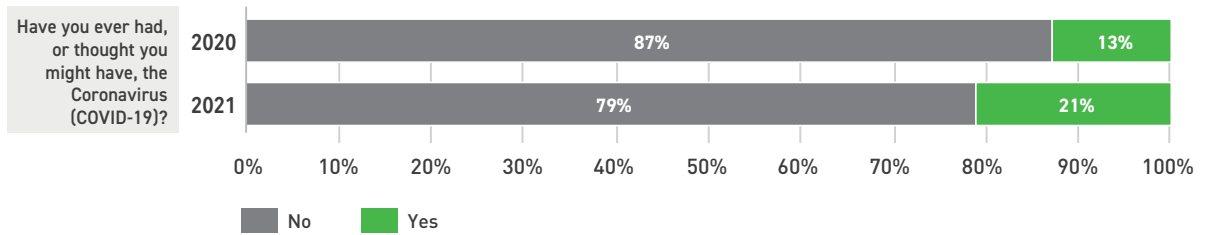
Figure 27. COVID-19 Vaccination Received

Responses to question, "Have you already been vaccinated against the Coronavirus (COVID-19)?"[70]

Have you already been vaccinated against the Coronavirus (COVID-19)?	No	Yes
	15%	85%

No   Yes
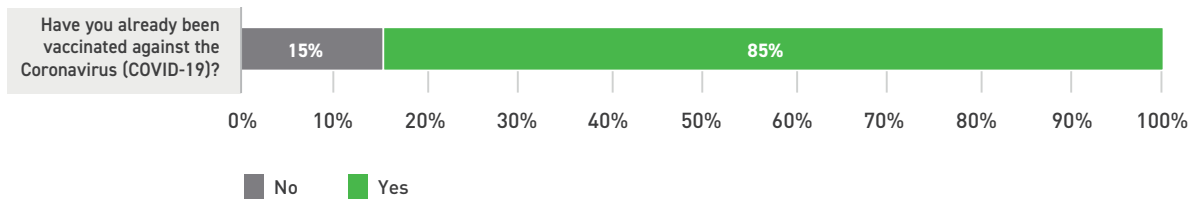
Figure 28. Brand of COVID-19 Vaccine Received

Responses to question, "Which vaccine did you receive?"[71]

Which vaccine did you receive?	Moderna	BioNTech/Pfizer	AstraZeneca	Johnson & Johnson
	8%	59%	31%	3%

Moderna   BioNTech/Pfizer   AstraZeneca   Johnson & Johnson
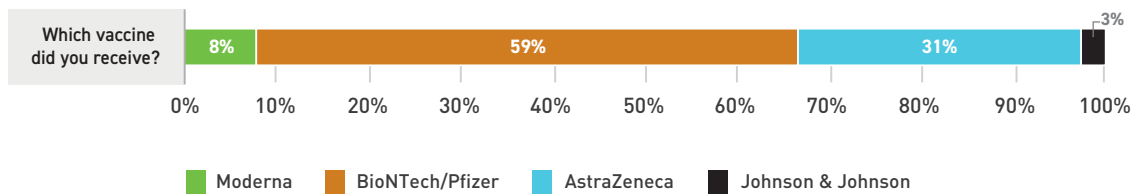
Figure 29. Number of COVID-19 Vaccine Doses

Responses to question, "Have you been vaccinated against the Coronavirus (COVID-19)?"[72]

How many doses of the vaccine have you received?	One dose	Two doses
	24%	76%

One dose   Two doses

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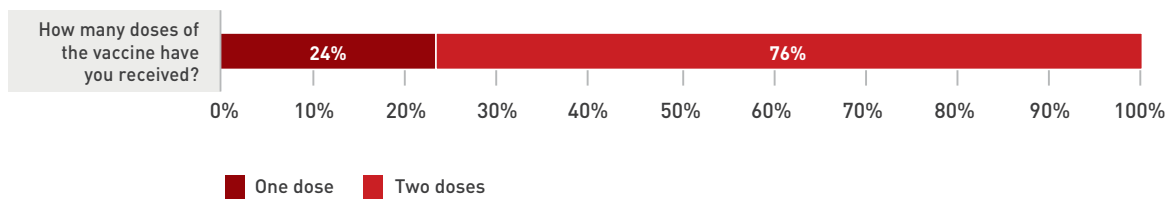
69   n (top to bottom): 257, 261. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

70   n: 285

71   n: 241

72   n: 234

3.5 | Interest Levels and Sources for Pandemic News

Section Summary

This section focuses on how the Irish public's interest in different kinds of news and reliance on different sources of information developed from 2020 to 2021.

3.5.1 | Change News Interest

Since 2020, there have been several changes to people's levels of interest in different kinds of news (Figure 30). There have been increases in the proportion of people reporting that they are more interested in technology news (+74%; 83% overall)[73], health news (+56%; 64% overall)[74] and science news (+52%; 59% overall)[75]. In contrast, fewer respondents (-85%) reported being more interested in popular entertainment news[76], government and politics news (-52%)[77], art and style news (-39%)[78], sports news (-26%)[79] and news in general (-12%)[80]. There were corresponding increases in the number of people reporting being less interested in these types of news.

In 2021 **83%** (+74%) of people reported that they are more interested in technology news compared to 2020

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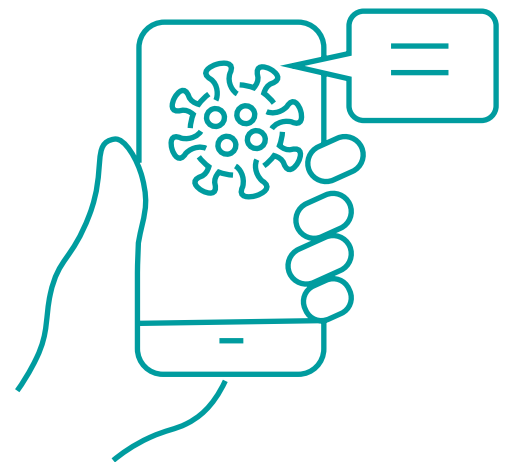
73   t(268) = -53.687, p = .000, d = -3.273
74   t(269) = -57.096, p = .000, d = -3.475
75   t(269) = -52.076, p = .000, d = -3.169
76   t(270) = -23.175, p = .000, d = -1.408
77   t(273) = -47.029, p = .000, d = -2.841
78   t(269) = -24.960, p = .000, d = -1.519
79   t(269) = -31.593, p = .000, d = -1.923
80   t(270) = -47.797, p = .000, d = -2.903

Figure 30. Change in News Interest between 2020 and 2021[81]
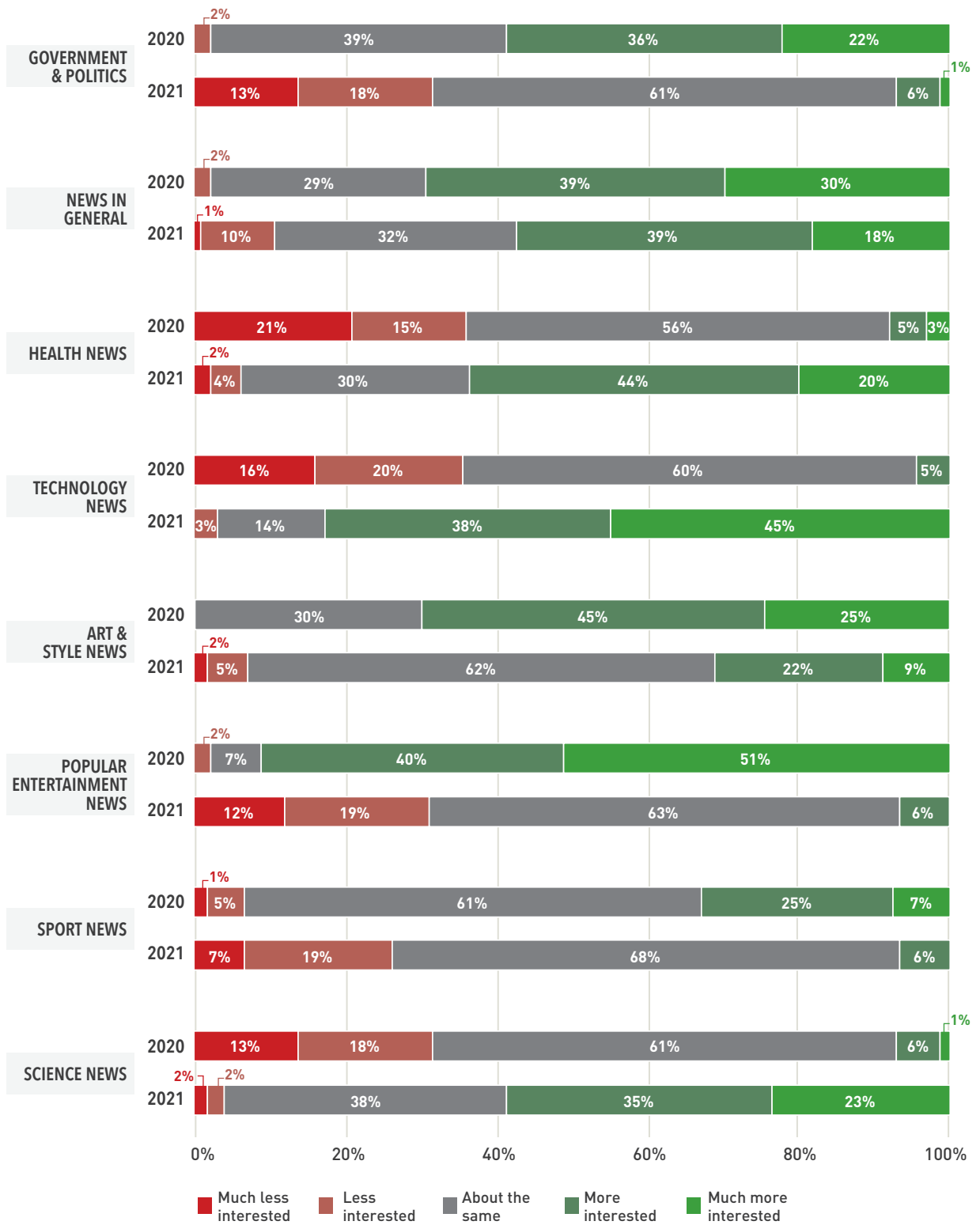
	Much less interested	Less interested	About the same	More interested	Much more interested

3.5.2 | Primary COVID-19 Pandemic News Source

People's choices of primary news sources for staying informed about the pandemic situation have been remarkably stable from 2020 to 2021 (Figure 31). RTÉ News remained the dominant news source about the pandemic situation for the Irish public, with 74% of people identifying it as their 'primary COVID-19 news source' (-1%).

Figure 31. Changes in Primary COVID-19 News Source

**Responses to question, "What primary news source do you use to stay informed about the Coronavirus (COVID-19) situation?"[82]**
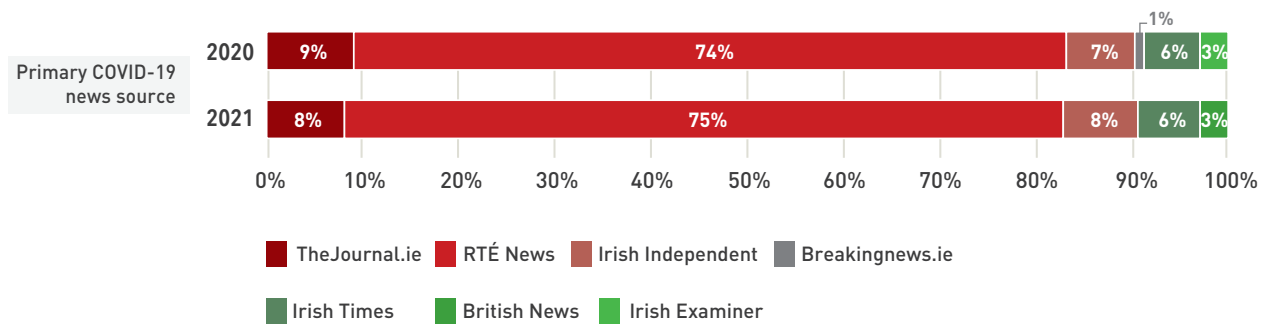
3.5.3 | Accessing COVID-19 News Source

People are checking their 'primary source[s] for information about the Coronavirus (COVID-19) situation' less often than in 2020 (Figure 32).[83] Checking on a daily basis decreased by 8%, dropping instead to checking for COVID-19 news 2-3 times per week (+2%), once per month (+3%) or never (+4).

Figure 32. Changes in Frequency of Accessing Primary COVID-19 News Source

Responses to question, "In the last 30 days, how often have you turned to your primary source for information about the Coronavirus (COVID-19) situation?"[84]
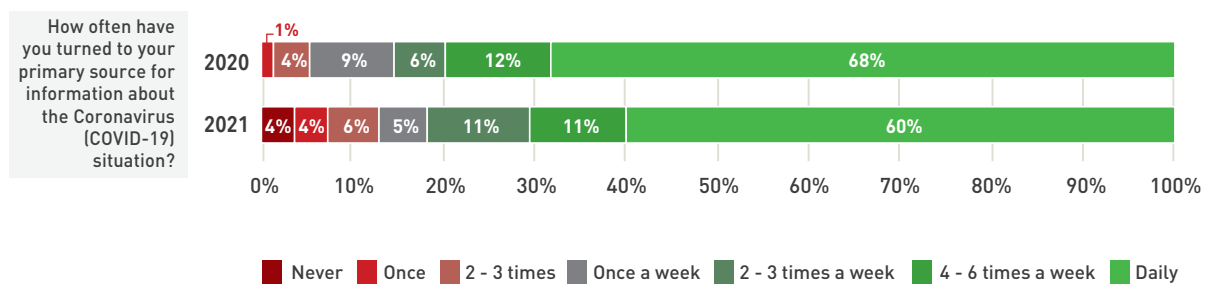
In terms of the public's preferred platforms for accessing pandemic-related news, results show a modest shift towards traditional media formats from 2020 to 2021 (Figure 33). Television and print newspapers are used more now (+5%), while news websites (-7%), social media (-4%) and radio (-2%) are used less often than in 2020 for news about the COVID-19 situation.

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82   n (top to bottom): 273, 273. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

83   t(261) = 3.371, p = .001, d = 0.208

84   n (top to bottom): 276, 274. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

Figure 33. Changes in Accessing Primary COVID-19 News Source

Responses to question, "How do you usually access this primary news source?"[85]
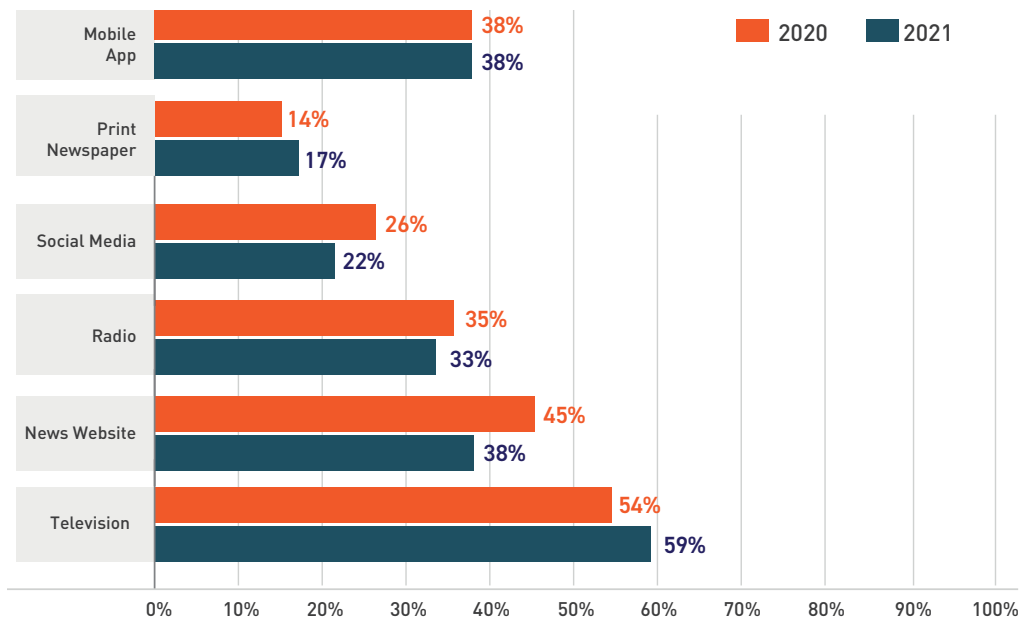
3.5.4 | Trust in COVID-19 News Sources

The level of trust that the Irish public invests in its primary source of COVID-19 news has declined significantly since 2020 (Figure 34),[86] with a proportion of people shifting from complete trust (-13%; 27%) to partial trust (+12%; 55%).

Figure 34. Trust in Primary COVID-19 News Source

Responses to question, "Please indicate to what extent you distrust or trust your primary news source for reliable information about the Coronavirus (COVID-19)?"[87]

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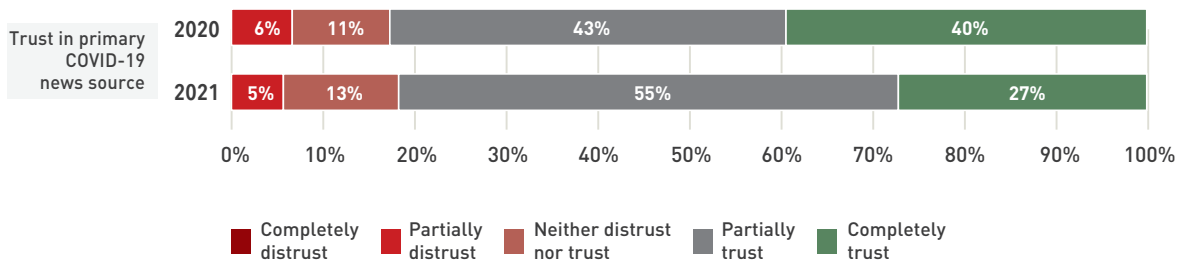
85   n (top to bottom): 273, 273. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

86   t(259) = 2.603, p = .010, d = 0.161

87   n (top to bottom): 277, 273. To simplify the results for this report, the rounded percentages have been used to generate the 'shift' percentages that appear in this figure. For this reason, these 'shift' percentages may be slightly off from the real proportions, which are available in the published dataset.

4 Discussion

The SFI Science in Ireland Barometer is designed to reveal the science-related engagement, levels of understanding, views and experiences of a representative sample of the Irish population. For the 2020 Barometer, the first survey was completed in the summer of 2020 and a second survey was distributed to the same respondents in the summer of 2021, 32% of which participated again.

This research question for the follow-up phase of the research was added to the original plans for the Barometer:

'To what extent has public support, value and trust for science and scientists in Ireland changed from 2020 to 2021?'

The surveys covered a range of topics about the relationship between science and society, designed to help SFI and the Irish scientific community monitor the landscape of public attitudes about science.

4.1 | Change in Public Attitudes Towards Science and Scientists

Overall, we observed that attitudes about science and scientists found in 2020 have remained relatively similar in 2021. Indeed, an overwhelming majority of the Irish public indicated very positive views towards science again in 2021, with most still finding science *useful* and *important*. There were small increases in the proportion of people who view science as *honest*, *inspiring*, *fascinating* and *essential*. However, we also observed slight, statistically significant decreases in the view that science is *stimulating* and *beneficial*, indicating negative shifts from 2020 to 2021. While negative views were still exceedingly rare amongst the Irish public in 2021, a very small number felt that science is *harmful* (5%) and *dishonest* (4%).

There was mixed evidence on the evolution of public attitudes towards *scientists* in 2021, with a decline in the view that scientists are *essential*, *fascinating* and *stimulating*, while a greater proportion of people viewed scientists as *inspiring*, *important* and *useful*. There were also small but statistically significant declines from 2020 to 2021 in the view that scientists are *beneficial* and *honest*.

Change in Public Trust in Science and Scientists

Levels of public trust for both science and scientists found in 2020 have remained high in 2021. However, we found a clear difference between those who completely trust science or scientists, indicated by a widening gap from 2020 to 2021. Indeed, we found that shifts from 2020 indicated a small, statistically significant increase in trust in science and a small increase in distrust in scientists.

Trust in Scientists at Public and Private Institutions

We also observed differences in views about scientists at publicly- and privately-funded institutions, finding small but statistically significant changes between 2020 and 2021. Across both surveys, we measured the following specific trust indicators: Information Accuracy, Useful Knowledge Creation, Public Benefit Intent and Funding Transparency. In both 2020 and 2021, we found consistently higher levels of trust for scientists at public institutions compared to private ones. High levels of *trust in scientists at public institutions* remained relatively stable over both years but small decreases were observed on all the specific trust indicators. At the same time, small increases in distrust were evident on all indicators except for Funding Transparency. The levels of *trust in scientists at private institutions* have also remained stable for two of the specific trust indicators, namely, Public Benefit Intent and Information Accuracy. Small decreases were seen for two other specific indicators: Useful Knowledge Creation, and Funding Transparency. On the other hand, small increases in distrust were evident for all specific indicators for scientists at private institutions.

Changes in Trust in Other Irish Professions

The level of trust the public invests in scientists and other key Irish professions changed from 2020 to 2021. We observed slightly less trust for all types of professionals, but the most trusted categories are still medical health professionals, scientists, and public health experts. On the other hand, we found a downward trend for professions with the lowest levels of trust in 2020, namely, politicians and journalists. We also found that public trust in the government and people in [their] neighbourhood reflected a similar downward trend.

4.2 | Science as beneficial and helping with real problems

We observed a positive trend in the Irish public's attitudes about whether science is beneficial, useful, and relevant to solving problems for 'ordinary people'. We found that most people in 2021 continue to support the idea that scientific discoveries are doing more good than harm. We also found small increases in the proportion of people that feel science is making the world a better place.

However, we found that more of the Irish public feel science is failing to help with the real problems of 'ordinary people'. These findings indicate that the Irish public may generally view science as a catalyst for 'doing good' or 'improving the world', but that these overall benefits may not translate into clear impact on ordinary people's lives.

Scientific research as a priority

We observed that the Irish public continue to hold positive views about the need to prioritise scientific research, both at national and personal levels. These findings indicate that the Irish public values scientific research.

Engagement with scientific research

We found broad public support for views that scientists should share research openly but resistance to the idea that its direction should be influenced by stakeholders or the public. From 2020 to 2021, there was an increase in support for the view that scientists have a professional responsibility to talk about research findings with the public and that the general public should have a say in how science develops. However, we found less support in 2021 for the idea that those who will be directly affected by scientific research should have a say in how it develops. While such differences may indicate a perception gap between attitudes about consultation with the 'general public' and 'people directly affected', findings indicate general support for the assertion that the Irish public wants to be involved and have a say in how science develops.

We found that more of the Irish public feel science is **failing to help with the real problems of 'ordinary people'**.

4.3 | Personal Views: Science Understanding and Capabilities

We explored personal views towards science in addition to more general public opinion views. Personal views show how the Irish public relate to science and its role in their lives, while general public opinion focuses on what 'most people' experience or do. We often observed differences between these two perspectives.

Science understanding and capability

There was a disparity between the changes in the public's assessment of the science understanding and capabilities of 'most people,' compared to development in views about their own personal experience with science. From 2020 to 2021, attitudes were more negative on general views that most people will struggle with science, find science too difficult to understand and are not capable of doing science. At the same time, personal views improved regarding whether people felt well-informed about science, had a good understanding of science or could see themselves as the type of person who can understand science. The one exception to the positive trend in people's personal self-assessments relating to science was a small decline in the proportion of people feeling *capable* of understanding science.

Capability of doing science and being a scientist

Similarly, general views from the Irish public about doing science or being a scientist diverged from their personal views about participating in science. We found an overall negative shift from 2020 to 2021 in general views about whether most people are capable of doing science or becoming a scientist. For example, we found declines in positive views about whether anyone can be a scientist with hard work or nearly everyone is capable of doing science. We also found negative shifts in *general views* that some people will always struggle with science. In contrast, there was an improved picture for *personal views* about whether respondents will always struggle with science or the idea that science is not for them. The exception to this pattern was a slight negative shift from 2020 to 2021 in *personal views* about whether respondents see themselves as capable of doing science or being a scientist. These findings indicate that, since 2020, individuals may have changed their assessments of their own science identities in a more positive direction than their general notion of an Irish public.

We found an overall negative shift from 2020 to 2021 in general views about **whether most people are capable of doing science or becoming a scientist.**

4.4 Perceptions of Science in Public Policy

We noted changes in general views about government spending and investment in scientific research, as well as ideas about the extent to which evidence should be considered during government policy decisions.

Government spending and investment in scientific research

The Irish public continued to hold generally positive views about government spending on scientific research in 2021, reflected in more positive views about ideas that public money spent on science is well worth spending and that the government should spend more money on scientific research.

However, these views seemed at odds with the reduced proportion of people holding positive views about how much money Ireland is spending on science.

Scientific evidence in Government decisions and policy

We found consistently high levels of support for use of scientific evidence in government problem-solving and guiding policy in 2020 and 2021. Indeed, most people still felt that the government should look for scientific evidence when deciding how to solve problems and that scientific evidence should guide government policy.

4.5 Public attitudes about the COVID-19 pandemic

Some changes in public opinion about the COVID-19 pandemic were evident. Since 2020, there has been an 11% increase in agreement that 'the Coronavirus (COVID-19) [will have/has had[88]] a negative impact on many people in my community'. Yet, despite this recognition, there has also been an 18% increase in disagreement with the statement: 'I will probably get sick with the Coronavirus (COVID-19)'. This increase in disagreement regarding the likelihood of personal COVID-19 infection is likely to have been driven by vaccination uptake amongst the public. However, the discrepancy between an increasingly sober retrospective assessment of community-level danger while assessments of personal risk shift in a more optimistic direction is a key finding. Another key finding in the 2021 Barometer was an increase of 9% in those who reported that their mental health had been negatively affected by the pandemic situation.

Coronavirus (COVID-19) vaccination mandates

The 2021 Barometer investigated the public's views about Coronavirus (COVID-19) vaccination requirements. Dropping by 14% since 2020, most people still agreed that 'everyone in Ireland' should be required to be vaccinated in 2021. A new survey question introduced in 2021 revealed that most people also believe that vaccinations should be required for 'everyone arriving in Ireland from another country'.

In 2021, we introduced numerous questions designed to clarify the public's views about Coronavirus (COVID-19) vaccination mandates by asking about different social contexts, job types and activities. We observed strong support for requiring proof of vaccination for international travel 'by plane' and 'by ferry'.

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88   2020/2021 survey question wordings, respectively.

When it came to vaccination mandates for participation in events, a majority of people supported requiring proof of vaccination during large indoor and outdoor, in-person events. For other kinds of leisure activities, attitudes about Coronavirus (COVID-19) vaccination mandates were mixed. The activities where there was the greatest public support requiring proof of vaccination were 'Eating or drinking indoors', 'Exercising indoors', 'Watching a film in the cinema' and 'Viewing live theatre'. There was less than 50% support for vaccination proof requirements across all these other leisure activities, however.

There was majority support for proof of vaccination when visiting long-term care or medical facilities for requiring proof of vaccination when visiting 'relatives at long-term care' and 'medical' facilities. Most people also thought that vaccination mandates should be applied to almost all frontline, public-facing workers, including those working in 'healthcare', 'public transport (e.g., bus drivers)' and 'food services (e.g., waiters)'. The one exception we found to this pattern was 'workers in haulage and transport of goods' for whom there was not majority backing for applying vaccine mandates.

Accessing COVID-19 news

In terms of accessing information about the pandemic, there was a downward trend in the frequency with which people checked COVID-19 related news, particularly among those who had been checking pandemic-related news daily in 2020. At the same time, we found that the level of trust in the Irish public's primary sources of COVID-19 news dropped significantly since 2020. This drop primarily affected people who reported *completely trusting* their primary sources of pandemic-related news in 2020, shifting down to *partial trust*.

Dropping by 14% since 2020, most people still agreed that **'everyone in Ireland'** should be required to be vaccinated in 2021.

5 Acknowledgements

Appendices

6 Appendix A: Methods

Section Summary

This section provides supplementary information on the methods used during Phase II of this research project. The processes described here reflect best methodological practice in top quality social science research, with the aim of enabling precision, reliability, validity, and repeatability.

6.1 | Data Collection

6.1.1 | Sampling

After completion of the Phase I survey[89] respondents were asked if they would be willing to receive an invitation for participation in the second round of the survey, in 2021. Those who indicated they would be willing to receive follow-up invitations (N = 903) were re-contacted before the deployment of the Phase II survey to obtain a subsample of respondents who participated in both survey phases.

6.1.2 | Response Rate

The Phase I survey was conducted between 13 July 2020 and 13 September 2020, initially yielding N = 1,018 responses who completed greater than 10% non-demographic questions and all the socio-demographic questions crucial for weighting (those not meeting these criteria were excluded from the final sample). Respondents who had not completed all key socio-demographic questions in Phase I (but were otherwise eligible respondents) were asked those questions again in the Phase II survey with the aim of bringing them back into the survey sample. This step increased the number of valid Phase I responses to N = 1054.

Within this final Phase I sample, the mean and median completion rate were 97% and 98%, respectively. Of the 903 people who agreed to be invited to participate in Phase II of the research, 336 completed the survey (and met the inclusion criteria described above), resulting in a response rate of 37%. Overall, 32% of respondents that participated in the first round of research participated in the second. The Phase II survey was conducted between 29 June and 9 August 2021.

We found a slight de facto sampling bias due to self-selection into the Phase II subsample: respondents who participated in both the Phase I and Phase II survey were more likely to be people living in suburban areas, people in smaller households, people with a higher certificate or a bachelor's degree, retirees or people looking after home/family and older age groups. We adjusted for this sampling bias using weighting (described below).

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89 Details of the Phase I sampling, data collection, data management and weighting processes can be found in the previous report: https://www.sfi.ie/engagement/barometer/SFI-Science-in-Ireland-Barometer-2020-Research-Report.pdf

6.1.3 | Sample Weighting

Despite the de facto sampling biases in the final Phase II sub-sample due to self-selection into the 2021 survey respondent pool, the precision of the survey results was maximised by applying updated weights to the data during analyses. Unweighted results refer to the data provided by participants who actually responded to the survey. While these results are important, they do not necessarily provide a nationally representative picture of the population, as the mix of people who responded to the survey are not precisely reflective of the wider Irish public in terms of known socio-demographic factors such as gender, age, and ethnic background. In other words, some social groups may be over- or underrepresented in the sample.

Therefore, all valid cases have been weighted by using raking - a form of calibration weighting – to align the sample to the Irish population's characteristics. This involves comparing the sampled proportions of socio-demographic variables with those from the 2016 Irish census, based on which each respondent receives an individual weight. The weights were designed to boost responses from underrepresented groups and put less emphasis on responses from overrepresented groups. The variables used for weighting were county of residence, sex, age, ethnicity, household size, and level of education. Although weighting was applied, people who were Black, Asian or from mixed ethnicities, as well as people whose highest level of education was primary education were underrepresented in the final Phase II subsample.

6.1.4 | Data Analysis

In this report, descriptive statistics are provided, setting out distributions and percentages of the population across response options for each variable with estimated margins of error. Paired samples t-tests were performed in order to identify statistically significant differences between the Phase I and Phase II results. For all analyses in this report, only responses of participants who took part in both surveys were taken into account. Considering the large sample size, the normality assumption for t-tests is satisfied via the central limit theorem. All statistically significant differences are explicitly described as such in this report's main body, with details provided in footnotes.

6.2 | **Demographic Profile**

Section Summary

In this section, the socio-demographic characteristics are provided for the respondents included in the analyses presented in this report - namely, those who took part in both the Phase I and Phase II surveys[90].

The age distribution showed a relatively even spread across categories. The most populous age category is 35-44 (20%). The age categories with the next highest proportion were 25-34 (17%) and 45-54 (17%). The mean age for the sample was 44.

Figure 35 below shows the distribution of respondents across gender categories.

Figure 36 below shows the distribution of respondents across ethnic and cultural background categories. All results from the research presented in this report are weighted to accurately represent the Irish population. However, it should be noted that a large proportion of these results represent the views of White respondents (99.9%).

Figure 35. **Distribution of respondents across gender categories**

Non-binary: <1 %
Woman: 50 %
Man: 49 %
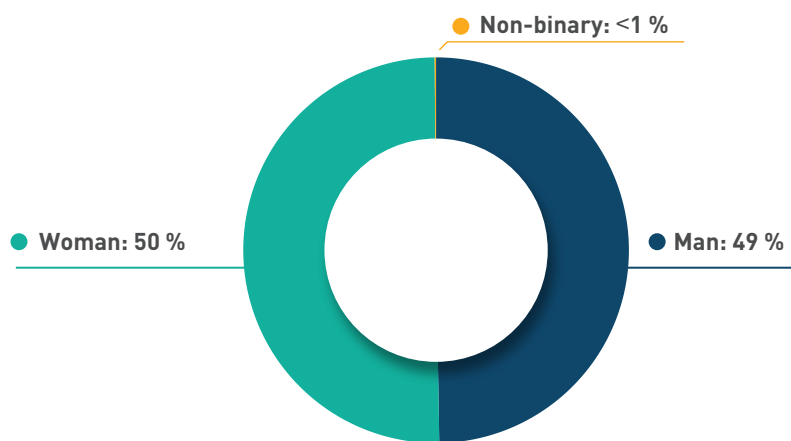
Figure 36. **Distribution of respondents across ethnic and cultural background - "What is your ethnic or cultural background?"**

Black or Black Irish: 1%
Other, including mixed background: 1%
Asian or Asian Irish: 0%
White or White Irish: 98%
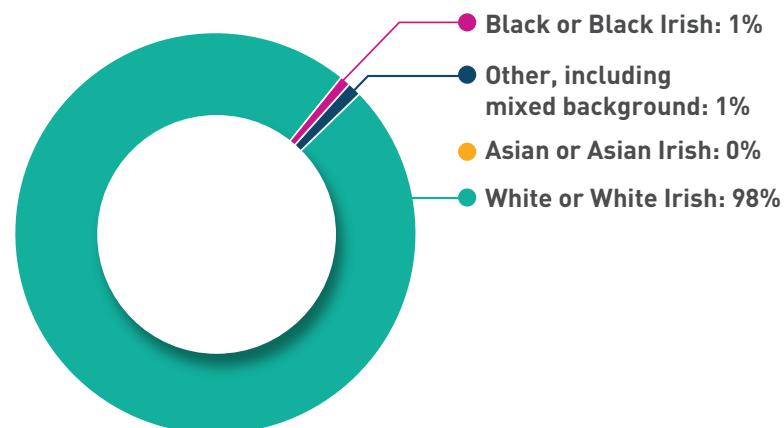
90   The figures for comparison show the distributions of the responding sample following the application of sample weights so that the results are representative of the population. These numbers are therefore largely a presentation of the distribution of the Irish population across demographic characteristics according to the 2016 Irish census, given that sample weights were applied to achieve alignment between the sample and the census.

Figure 37. Sample Age Group Distribution
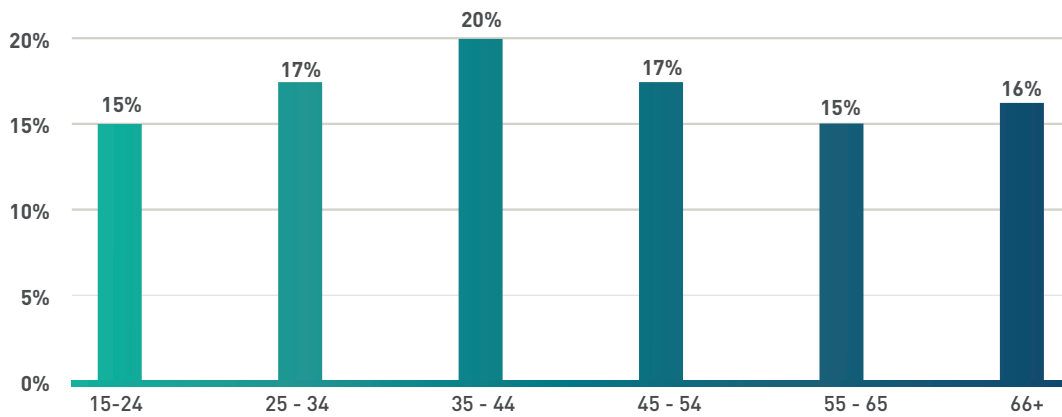
The distribution of highest level of education or training completed were relatively aligned with the Irish census and the larger Phase I survey sample. The modal category was Upper Secondary (21%) education with the next most populous category was Lower Secondary (17%). The next highest category was Bachelor's Degree/Professional qualification (12%) and the smallest category was Doctorate (Ph.D.) or higher (3%).

Figure 38. Sample Distribution of Level of Education
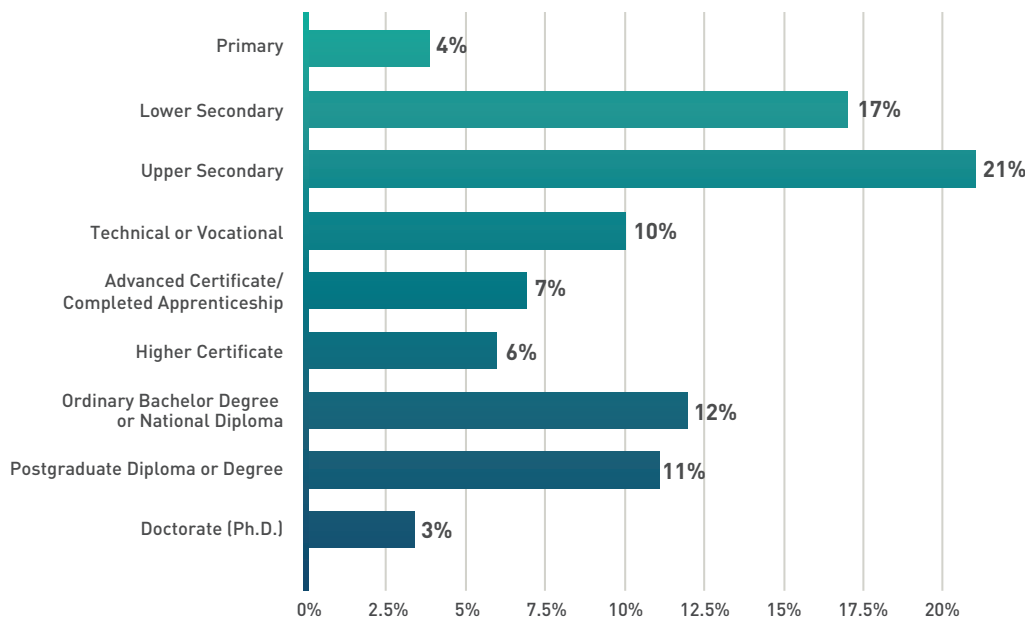
In the Phase II sample, the most populous income category is €20,000 - €39,999 (28%), followed by '€40,000' to '€59,999' (21%). Results show that nearly two thirds (60.0%) of Irish households had a gross household income of less than €60,000, indicating close alignment (-2.6%) with the Irish census (2016)[91]. Median income in 2019 has been indicated as 25,528[92].

Figure 39. Phase II Sample Distribution of Household Income
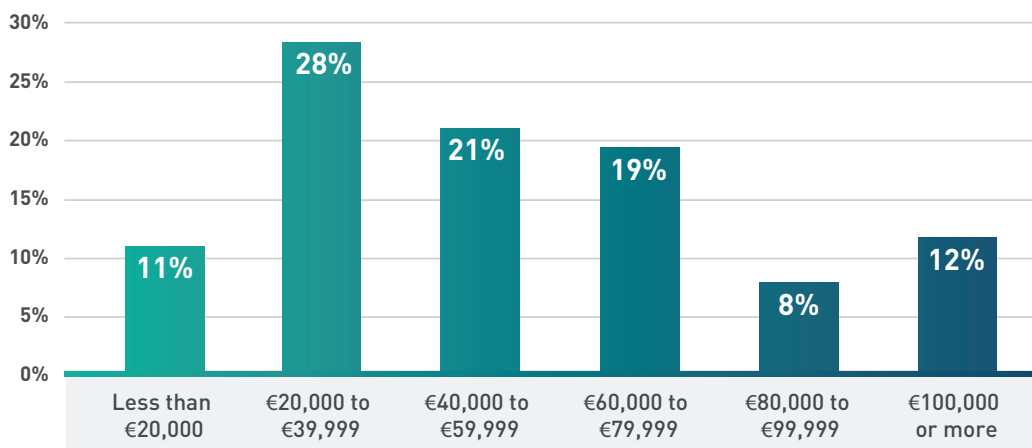
In the Phase II sample, the most populous income category is **€20,000 - €39,999 (28%)**, *followed by* **'€40,000' to '€59,999' (21%)**

91   Geographical Profiles of Income in Ireland 2016. https://www.cso.ie/en/releasesandpublications/ep/p-gpii/geographicalprofilesofincomeinireland2016/incomeinireland/

92   Eurostat (2021). Mean and median income by household type: https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ilc_di04

7 Appendix B: Survey Design

On behalf of the government agency, Science Foundation Ireland (SFI), we would again like to thank you for making your voices heard through the SFI Barometer public opinion survey. The results from the previous survey (Phase 1) are helping SFI to better understand your experiences with science and technology, inform future developments in Ireland, and determine national investment priorities.

In the second phase of this research, we would like to understand your views on issues of importance in Ireland today. The main part of the survey takes about **15-20 minutes** to complete.

Participation in this research is voluntary. By default, your responses will be anonymised prior to reporting and publishing of data and results. No personally identifiable information will be shared with third parties for any reason without your explicit consent.

Thank you for continuing your participation in this research being conducted by Qualia Analytics (qualiaanalytics.org), the research company running this survey. Questions about the purposes of this survey and use of the data collected can be directed to barometer@sfi.ie. Any queries or concerns regarding your participation in this survey can be answered by emailing survey@qualiaanalytics.org.

If you can do so now, please click **Next** to continue.

(You will have the option to consent on the following page.)

Agreement to Participate

Please read the following statements below:

- I confirm I am 16 years of age or older.

- I understand that my responses to the following survey will be confidentially stored and used for research purposes only.

- I understand that my participation is voluntary, and I can withdraw at any time and ask for any personally identifiable information to be deleted.

- I agree I have received adequate information about my participation in this survey and understand what will happen to the information I provide.

Q0CO   **Please indicate whether you understand and agree with the statements above, and are willing to participate in this survey: [checkbox]**

Yes, I understand, agree, and am willing to participate in this survey.

*Shown if Yes, **I understand, agree, and am willing to participate in this survey**. is NOT selected in **Q0CO**.*

If you would like clarification about any of the information above before starting, or if you have difficulties completing this form, please email survey@qualiaanalytics.org.

Always displayed

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Perspective and Understanding of Science Questions

Q1   When you think of SCIENCE, what are the first things that come to mind? [Textarea] *(Please be as detailed as possible)*

[page break]

Q2   For each pair of words below, please select the point between them that you think best describes SCIENCE.

I think SCIENCE is…

	3	2	1	0	-1	-2	-3	
Essential								Unnecessary
Fascinating								Uninteresting
Inspiring								Depressing
Stimulating								Dull
Important								Unimportant
Useful								Useless
Beneficial								Harmful
Honest								Dishonest

[Randomized in order and polarity]

[page break]

Q3   For each pair of words below, please select the point between them that you think best describes SCIENCE / SCIENTISTS.

I think SCIENTISTS are…

	3	2	1	0	-1	-2	-3	
Essential								Unnecessary
Fascinating								Uninteresting
Inspiring								Depressing
Stimulating								Dull
Important								Unimportant
Useful								Useless
Beneficial								Harmful
Honest								Dishonest

[Randomize order]

[page break]

General Trust

Q4 **In general, would you say you distrust or trust the following:**	Completely distrust	Partially distrust	Neither distrust nor trust	Partially trust	Completely trust	Not applicable / No Opinion
	[-2]	[-1]	[0]	[1]	[2]	[-96]
Science						
Scientists						

[Randomize order]

[page break]

Ireland Trust

Q5 **How much, in general, do you distrust or trust each of the following?**	Completely distrust	Partially distrust	Neither distrust nor trust	Partially trust	Completely trust	Not applicable / No Opinion
	[-2]	[-1]	[0]	[1]	[2]	[-96]
Scientists in Ireland						
Journalists in Ireland						
The Government in Ireland						
Politicians in Ireland						
Public health experts in Ireland						
Medical professionals (e.g. doctors) in Ireland						
People in your neighbourhood						

[Randomize order]

[page break]

Trust in Scientists (publicly funded)

Q6 How much do you distrust or trust scientists at publicly funded institutions in Ireland (such as universities) to:	Completely distrust	Partially distrust	Neither distrust nor trust	Partially trust	Completely trust	Not applicable / No Opinion
	[-2]	[-1]	[0]	[1]	[2]	[-96]
Publicly communicate accurate information about their research.						
Create knowledge that is useful.						
Do their work with the intention of benefiting the public.						
Be open and honest about who is paying for their work.						

[Randomize order]

[page break]

Trust in Scientists (privately funded)

Q7 How much do you distrust or trust scientists at private institutions in Ireland (such as companies) to:	Completely distrust	Partially distrust	Neither distrust nor trust	Partially trust	Completely trust	Not applicable / No Opinion
	[-2]	[-1]	[0]	[1]	[2]	[-96]
Publicly communicate accurate information about their research.						
Create knowledge that is useful.						
Do their work with the intention of benefiting the public.						
Be honest about how they're using public funding.						

[Randomize order]

[page break]

Q8 To what extent do you disagree or agree with each of the following statements?	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not applicable / No Opinion
	[1]	[2]	[3]	[4]	[5]	[-96]
With hard work, anyone can be a scientist.						
Nearly everyone is capable of doing science, if they work at it.						
Some people will always struggle with science.						
Science is too difficult to understand.						
Science has no relation to what I experience in the real world.						
Learning science changes my ideas about how the world works.						
Science is useful in solving everyday problems in my life.						
It is important to me that I am informed about science.						

[Randomize order]

[page break]

Q9 **To what extent do you disagree or agree with each of the following statements?**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not applicable / No Opinion
	[1]	[2]	[3]	[4]	[5]	[-96]
I am the type of person who can be a scientist.						
I am the type of person who can do science.						
I am not the type of person who can understand science.						
I am the type of person who will always struggle with science.						
Science is not for me.						
I have a good understanding of science.						
I feel capable of understanding science.						
In general, I feel well informed about science.						

[Randomize order]

[page break]

Some people seem to follow what's going on in government and politics most of the time, whether there's a major news event going on or not. Others aren't that interested.

Q10 **Within the last 30 days, how often have you been following what's going on in:**	Never	Once	2-3 times	times a week			Daily	Prefer not to say	Unsure
				Once	2-3	4-6			
	[?]	[1]	[2]	[3]	[4]	[5]	[6]	[-97]	[-95]
Government and politics									
News in general									
Health news									
Technology news									
Art and style news									
Popular entertainment news									
Sport news									
Science news									

[Fix 'Government and politics' and 'News in general'. Randomize order of other items]

[page break]

Q11 **To what extent do you disagree or agree with each of the following statements?**	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not applicable / No Opinion
	[1]	[2]	[3]	[4]	[5]	[-96]
Public money spent on science is well worth spending.						
The government should spend more money on scientific research.						
The general public should have a say in how science develops.						
This country is spending too much money on science.						
The government should look for scientific evidence when deciding how to solve problems.						
Scientific evidence should guide government policy.						
Scientific research should be a priority for our nation.						
Scientific discoveries are doing more harm than good.						

[Randomize order]

[page break]

Q12 To what extent do you disagree or agree with each of the following statements?	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not applicable / No Opinion
	[1]	[2]	[3]	[4]	[5]	[-96]
Scientific research is a priority for me.						
Science is failing to help with the real problems of ordinary people.						
Science makes very little difference for fixing real problems of ordinary people.						
People who will be directly affected by scientific research should have a say in how it develops.						
Scientists have a professional responsibility to talk about research findings with the public.						
Science is making the world a better place.						
Science is too concerned with theory to be useful to government when making policy decisions.						
[Randomly display only one of the following:] We need more gender diversity in science. We need more ethnic diversity in science.						

[Randomize order]

[page break]

Age, Sex & Gender

The following are personal questions to help us understand your responses better.

Q13 When were you born? [Age]

(Please write in the whole number, e.g. 32)

[-97 Prefer not to say]

Q14 What sex were you assigned at birth? [Dropdown]

(We are asking about biological sex [for example, on your birth certificate] to compare to the Irish Census.)

[2] Female

[1] Male

[3] Intersex

[-97] Prefer not to say

Q15 What is your gender? [Dropdown]

(We are asking about gender to understand how you self-identify. This will be used for reporting/analytical purposes.)

[2] Woman

[1] Man

[3] Non-binary

[-96] A gender not listed here

[-97] Prefer not to say

Q16 What is your ethnic or cultural background? [Dropdown]

[1] White or White Irish

[2] Black or Black Irish

[3] Asian or Asian Irish

[4] Other, including mixed background

[-97] Prefer not to say

*Shown if **White or White Irish** selected in **16.** [Applies to the question(s) 16.1.]*

Q16.1 Please specify your White background: [Dropdown]

[1] White—Irish

[2] White—Irish Traveller

[3] White—Any other White background

*Shown if **Black or Black Irish** selected in **16.** [Applies to the question(s) 16.2.]*

Q16.2 Please specify your Black background: [Dropdown]

[2] Black or Black Irish—African

[3] Black or Black Irish—Any other Black background

*Shown if **Asian or Asian Irish** selected in **16.** [Applies to the question(s) 16.3.]*

Q16.3 Please specify your Asian background: [Dropdown]

[1] Asian or Asian Irish—Chinese

[3] Asian or Asian Irish—Any other Asian background

[page break]

Education

Q17 What is the highest level of education or training you have completed so far? [Radio box]

    [1] No formal education/training

    [2] Primary education

    [3] Lower Secondary

    [4] Upper Secondary

    [5] Technical or Vocational

    [6] Advanced Certificate/Completed Apprenticeship

    [7] Higher Certificate

    [8] Ordinary Bachelor Degree or National Diploma

    [9] Honours Bachelor Degree/Professional qualification or both

    [10] Postgraduate Diploma or Degree

    [11] Doctorate (Ph.D.) or higher

Definitions displayed alongside Q17:

- Primary education (NFQ Levels 1 or 2) FETAC Level 1 or 2 Cert. or equivalent
- Lower Secondary (NFQ Level 3) Junior/Inter/Group Cert., FETAC Level 3 Cert., FÁS Introductory Skills, NCVA Foundation Cert. or equivalent
- Upper Secondary (NFQ Levels 4 or 5) Leaving Cert. (including Applied and Vocational programmes) or equivalent
- Technical or Vocational (NFQ Level 6) FETAC Level 4/5 Cert., NCVA Level 1/2, FÁS Specific Skills, Teagasc Cert. in Agriculture, CERT Craft Cert. or equivalent
- Advanced Certificate/Completed Apprenticeship (NFQ Level 6) FETAC Advanced Cert., NCVA Level 3, FÁS National Craft Cert., Teagasc Farming Cert., CERT Professional Cookery Cert. or equivalent
- Higher Certificate (NFQ Level 6) NCEA/HETAC National Cert. or equivalent
- Ordinary Bachelor Degree or National Diploma (NFQ Level 7)
- Honours Bachelor Degree/Professional qualification or both (NFQ Level 8)
- Postgraduate Diploma or Degree (NFQ Level 9) Postgraduate Diploma, Masters Degree or equivalent
- Doctorate (Ph.D.) or higher (NFQ Level 10)

*Shown if **Primary education, Lower Secondary, Upper Secondary, Technical or Vocational, Advanced Certificate/Completed Apprenticeship, Higher Certificate, Ordinary Bachelor Degree or National Diploma, Honours Bachelor Degree/ Professional qualification or both, Postgraduate Diploma or Degree, Doctorate (Ph.D.) or higher** selected in **Q8***

Thinking about your education, did you personally learn about **science** in:

Q17.1 Primary school [Dropdown]

    [1] Yes

    [2] No

    [3] Never attended this type of class at primary school

    [-95] Unsure

*Shown if **Lower Secondary, Upper Secondary, Technical or Vocational, Advanced Certificate/Completed Apprenticeship, Higher Certificate, Ordinary Bachelor Degree or National Diploma, Honours Bachelor Degree/Professional qualification or both, Postgraduate Diploma or Degree, Doctorate (Ph.D.) or higher** selected in **Q8***

Q17.2 Secondary school [Dropdown]

[1] Yes

[2] No

[3] Never attended this type of class at secondary school

[-95] Unsure

*Shown if **Higher Certificate, Ordinary Bachelor Degree or National Diploma, Honours Bachelor Degree/Professional qualification or both, Postgraduate Diploma or Degree, Doctorate (Ph.D.) or higher** selected in **Q8***

Q17.3 Higher education (e.g. University) [Dropdown]

[1] Yes

[2] No

[3] Never attended this type of class during higher education

[-95] Unsure

Employment & Income

Q18 How would you describe your current working status? [Dropdown]

[1] Working for payment or profit

[2] Student or pupil

[3] Looking for first regular job

[4] Looking after home/family

[5] Unemployed / temporarily unable

[6] Unable to work due to permanent sickness or disability

[7] Retired from employment

[-97] Prefer not to say

[-98] Other (please specify)

Q19 What is your total gross annual household income? [Dropdown]

(This should be "gross" income, so please estimate without consideration for any taxes or expenses)

[1] Less than €20,000

[2] €20,000 to €39,999

[3] €40,000 to €59,999

[4] €60,000 to €79,999

[5] €80,000 to €99,999

[6] €100,000 or more

[-97] Prefer not to say

Q20 Please indicate what you can usually afford with your household income: [Dropdown]

    [1] Less than basic needs

    [2] Basic needs

    [3] Some needs but not all

    [4] All needs

    [5] All needs and more

    [-97] Prefer not to say

    [-95] Unsure

Nationality

Q21 What is your nationality? [Nationality]

    (Start typing to limit results, select the best match.)

    [-98] Other (please specify)

Q22 Do you have a second nationality? [Dropdown]

    [1] Yes

    [2] No

Shown if **Yes** is selected in 22 [Applies to 23.]

Q23 What is your second nationality? [Nationality]

    (Start typing to limit results, select the best match.)

    [-98] Other (please specify)

Digital Divide

The following questions will help us understand your access to digital technology.

Q24 Do you have a home internet connection? [Dropdown]

    [1] Yes, Broadband connection

    [2] Yes, other connection

    [3] No

    [-97] Prefer not to say

Shown if **Yes, Broadband connection OR Yes, other connection** selected in 24 [Applies to the question(s) 24.1.]

Q24.1 How would you rate the quality of your internet access at home? [Radio box]

    [1] Poor

    [2] Fair

    [3] Good

    [4] Very good

    [5] Excellent

    [-97] Prefer not to say

Continuation

Almost finished! Thank you so much for your participation so far. The remaining questions will include a focus on your situation and perspectives relating to the novel coronavirus (COVID-19) crisis. We estimate only 8-10 minutes remaining to complete this survey.

Q0CN   Are you willing to continue with this survey? [Radio box]

[2] Yes, I can answer some more questions now

[1] No, I do not want to continue with more questions

*Shown if **Yes, I can answer some more questions now** selected in **Q0CN***

Thank you for continuing with the survey!

[page break]

Employment Changes (COVID-19)

Q25 Do any of the following work-related situations apply to you because of the Coronavirus (COVID-19) situation? [Checkbox (Grid)]]

[1] I have been laid off, furloughed or my job has been suspended

[2] My work hours have been reduced

[3] I have started working from home

[4] I started a new job remotely

[5] I have my job

[-97] Prefer not to say

[6] None of the above

[-98] Other (please specify)

Q26 Do any of the following health-related situations apply to you because of the Coronavirus (COVID-19)? [Checkbox (Grid)

[1] Mental health negatively affected

[2] Experienced severe tensions in the household

[3] Have postponed major medical treatment

[-97] Prefer not to say

[4] None of the above

[-98] Other (please specify)

[page break]

Q27 Have you ever had, or thought you might have, the Coronavirus (COVID-19)? [Radio box]

[1] Yes

[2] No

[-95] Unsure

C19 Views

Q28 **Using the response options below, indicate the extent to which you agree or disagree with each of the following statements**	Strongly Disagree [1]	Disagree [2]	Neutral [3]	Agree [4]	Strongly Agree [5]	Not applicable / No Opinion [-96]	Prefer not to say [-97]
Getting sick with the Coronavirus (COVID-19) can be serious.							
I will probably get sick with the Coronavirus (COVID-19).							
The Coronavirus (COVID-19) has had a negative impact on many people in my community.							
The Coronavirus (COVID-19) situation has improved some aspects of my daily life.							
Everyone in Ireland should be required to get a Coronavirus (COVID-19) vaccination.							
Everyone arriving in Ireland from another country should be required to get a Coronavirus (COVID-19) vaccination.							

[Randomize order]

[page break]

C19 GOVT Decisions

In your view, when making decision about how to handle the Coronavirus (Covid-19) situation…

Q29 Which of the following is the government considering the most? [Checkbox (Grid), randomized]

(You may select up to three)

[5] International influences

[7] Public opinion

[4] Advice from medical doctors

[2] Economic considerations

[6] Minimising disruption to normal life

[1] Scientific evidence

[3] Political considerations

[-97] Prefer not to say

[-95] Unsure

[8] None of the above

Q30 Which of the following should the government be considering the most?
[Checkbox (Grid), randomized]

(You may select up to three)

[5] International influences

[7] Public opinion

[4] Advice from medical doctors

[2] Economic considerations

[6] Minimising disruption to normal life

[1] Scientific evidence

[3] Political considerations

[-97] Prefer not to say

[-95] Unsure

[8] None of the above

[page break]

C19 Vaccine Views: Activities (C19VV)

Q31 People have a range of ideas about new Coronavirus (COVID-19) vaccination requirements beginning in 2022. Do you think private organisations should require people in Ireland to show proof of vaccination for any of the following activities?	Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Always	Don't know
	[0]	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Travelling internationally by plane								
Travelling internationally by ferry								
Travelling locally on public transportation (e.g., bus, train)								
Travelling locally by taxi or rideshare (e.g., Uber)								
Large indoor in-person events (e.g., a sporting event held in a stadium with 1000+ people)								

	Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Always	Don't know
	[0]	[1]	[2]	[3]	[4]	[5]	[6]	[7]
Large outdoor in-person events (e.g., a festival held in an open area with 1000+ people)								
Small outdoor in-person events (under 50 people)								
Small indoor in-person events (under 50 people)								
Visiting a public park								
Visiting a zoo								
Visiting a museum								
Visiting an amusement park								
Shopping at a mall								
Watching a film at the cinema								
Viewing live theatre								
Drinking indoors at a bar or pub								
Eating indoors at a restaurant								
Exercising indoors (e.g., gyms or leisure centres)								
Attending university classes in person								
Visiting a medical facility (Non-emergency)								
Visiting relatives at long-term care facilities								

[Randomize order]

[page break]

C19 Vaccine Views: Frontline Workers (C19VV)

Q32 People have a range of ideas about new requirements after the completion of Ireland's Coronavirus (COVID-19) vaccination rollout. Do you think the government should require people to show proof of vaccination to work in the following frontline (public-facing) jobs?	Never [1]	Rarely [2]	Occasionally [3]	Sometimes [4]	Frequently [5]	Usually [-96]	Always [?]	Don't know [?]
Public transport workers (e.g., bus drivers)								
University professors								
School teachers								
Office workers (e.g., using shared spaces in a building)								
Workers in haulage and transport of goods								
Healthcare workers								
Food service workers (e.g., waiters)								

Vaccinated (COVID-19)

Q33 Have you already been vaccinated against the Coronavirus (COVID-19)?
[Radio box]
[1] Yes
[2] No

Shown if **Yes** is selected in **Q33**

Q33.1 Which vaccine did you receive? [Dropdown]
[1] Moderna
[2] BioNTech/Pfizer
[3] AstraZeneca
[4] Johnson & Johnson
[-97] Prefer not to say
[-95] Unsure
[5] None of the above

Shown if **Johnson & Johnson** is NOT selected in **Q33**

Q32.2 How many doses of the vaccine have you received? [Dropdown]

[1] One dose

[2] Two doses

[-97] Prefer not to say

[-95] Unsure

[-98] Other (please specify)

Shown if **No** is selected in **Q33**

Q33.3 Pf you were offered the following Coronavirus (COVID-19) vaccines, would you get vaccinated?	Definitely not	Probably not	Maybe	Probably	Definitely	Prefer not to say	Unsure	Don't know
	[1]	[2]	[3]	[4]	[5]	[-97]	[-95]	[?]
BioNTech/Pfizer								
Moderna								
AstraZeneca								
CureVac								
Johnson & Johnson								
Sanofi/GSK								
Sputnik V								
Sinovac								

[page break]

News Interest (COVID-19)

Q34 During the Coronavirus (COVID-19) crisis, have you been more or less interested in following:	Much less interested	Less interested	About the same	More interested	Much more interested	Prefer not to say	Unsure
	[1]	[2]	[3]	[4]	[5]	[-97]	[-95]
Government and politics							
News in general							
Sport news							
Popular entertainment news							
Science news							
Health news							
Technology news							
Art and style news							

[Fix 'Government and politics' and 'News in general'. Randomize order of other items]

[page break]

News Sources & Trust

Q35 What information do you wish you knew about the Coronavirus (COVID-19)? [Textarea]

[-97] Prefer not to say

Nowadays, people get their news from different sources, and use a variety of methods to access information that they are interested in.

Q36 What primary news source do you use to stay informed about the Coronavirus (COVID-19) situation? [Dropdown]

(Start typing to limit results. Select the best match.)

[1] TheJournal.ie

[2] RTÉ News

[3] Irish Independent

[4] Breakingnews.ie

[5] Irish Times

[7] Sunday World

[8] British News

[9] Irish Examiner

[-97] Prefer not to say

[-95] Unsure

[-98] Other (please specify)

> *Shown if **British News** selected in **Q36***
>
> **Q36.1 Please specify your primary British news source: [Dropdown]**

(Start typing to limit results. Select the best match.)

[5] BBC News

[16] Financial Times

[7] ITV News

[8] Sky News

[2] The Daily Telegraph

[1] The Guardian

[12] The Independent

[13] The New European

[10] The Observer

[4] The Sun

[15] The Sunday Telegraph

[9] The Times

[11] i / i Weekend

[-98] Other (please specify)

Q37 How do you usually access this primary news source? [Checkbox (Grid), randomised]

(Tick all that apply)

[6] Mobile app

[1] Television

[4] Social media

[3] Radio

[2] News website

[5] Print newspaper

[-98] Other (please specify)

Q38 In the last 30 days, how often have you turned to your primary source for information about the Coronavirus (COVID-19) situation?	Never	Once	2-3 times	Once a week	2-3 times a week	4-6 times a week	Daily	Prefer not to say	Unsure
	[0]	[1]	[2]	[3]	[4]	[5]	[6]	[-97]	[-95]
In the last 30 days, I have used my primary news source									

Q39 Please indicate to what extent you distrust or trust your primary news source for reliable information about the Coronavirus (COVID-19) situation:	Completely distrust	Partially distrust	Neither distrust nor trust	Partially trust	Completely trust	Not applicable / No Opinion
	[-2]	[-1]	[0]	[1]	[2]	[-96]
My primary news source provides reliable information about the Coronavirus (COVID-19) situation.						

[page break]

A report about the findings from the last SFI Barometer 2020 survey on public attitudes towards science in Ireland was recently published, along with various news articles citing the report.

Q40 Have you heard or read about this report? [Dropdown]

[1] Yes

[2] No

[-95] Unsure

Survey Completion

Thank you for completing this survey!

8 Appendix C: Glossary[93]

Attitude: In psychology, an attitude represents a person's positive or negative assessment of a thing, person, topic, or issue (the attitude object). Attitudes consist of two components: affect and cognition.

Affect: Affect is an attitude component and refers to feelings and emotions generated by stimulation through a thing, person, topic, or issue (the attitude object).

Cognition: Cognition is an attitude component and is related to knowledge, thoughts, beliefs, and attributes one associates with a thing, person, topic, or issue (the attitude object).

Average: The average, or mean, is the sum of all values divided by the total number of values. For instance, the mean of the numbers 6, 4, 2, 1, 3, and 6 is 3.7.

Chi-square test: This test is used when you want to evaluate whether two categorical variables are related.

Cognitive testing: The process of administering, and gaining detailed feedback on, all or part of a survey prior to the main survey with a smaller sample size in order to confirm that the intended meanings of your survey questions are clear to your respondents and that any directions you provide can be easily and accurately followed.

Correlation: The extent to which two variables have a relationship dependent on each other. For example, there is a correlation between eating high quantities of fatty foods and gaining weight.

Cramér's V: This test is used as a follow-up after a statistically significant chi-square result to determine the size of the effect.

Effect size: The effect size is a number representing the strength of the relationship between two variables. The larger this number is, the stronger the relationship.

Inferential statistics: Inferential statistics are numbers resulting from calculations which enable generalizations about a population from collected data with a known level of certainty that the results accurately reflect reality within a certain range. This is done, for example, by testing hypotheses and deriving estimates.

Likert-type scale: A Likert-type scale is typically a statement with a set of response options, allowing a respondent to indicate, for example, their level of agreement with a statement in a way that can be readily converted to numbers for analysis.

Margin of error: In statistics, the margin of error describes the amount of randomly occurring error that will happen during the process of generating data. Typically, the larger the sample size, the smaller the margin of error, and the more likely the results can be generalised accurately within a smaller range.

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93   Disclaimer: These are highly simplified definitions, not meeting scientific standards.

Median: When ranking the numbers in a set of data from the smallest to the largest number, the median represents the exact mid-point, or the most central number. For instance, the median of the set of numbers 1, 2, 3, 4, 5, 6 and 7 is 4.

Mode: The mode is the most frequently occurring value or attribute in one set of data. For instance, among the set of numbers 6, 4, 2, 1, 3, and 6, the mode is 6.

Populous: Densely populated - here, it refers to the amount of people in a category or group.

Qualitative: Qualitative data represent observable phenomena which cannot be described by numbers and are subject to interpretation. Interview transcripts, for instance, are qualitative data which need to be systematically interpreted and organised in order to make valid assumptions about them. In this report, the blue text bubbles show qualitative data.

Quantitative: Quantitative data refers to set quantities, and therefore numbers. For example, the tables and figures in the results present quantitative findings.

Reliability: In statistics, reliability describes the overall consistency of a measure. When similar results are measured under constant conditions, the reliability assumption is achieved.

Sentiment: This refers to a feeling or opinion held or expressed.

Socio-demographics: This refers to characteristics of a population, such as gender, age, income, ethnicity, education, etc.

Spearman's Rho: In statistics, Spearman's Rho describes the correlation or relationship between two variables.

Statistical significance: When findings are statistically significant (e.g., at a confidence level of 5%), it means that they are probably not the result of pure chance (e.g., with a 95% probability).

Stratified random sampling: In statistics, stratified sampling is a sampling method in which the total population is divided into subpopulations, dependent on certain (socio-demographic) characteristics. Random samples are then selected from each subpopulation.

Validation: Validation describes the process of assessing something in terms of its validity and how they can be used in statistical analysis.

Validity: Validity is the extent to which a measurement instrument actually measures what it is supposed to measure. For example, a scale that is broken and does not display the correct weight provides invalid data. Valid research findings are those that closely correspond to the objective or subjective reality of the situation you are studying.

Variable: In statistics, a variable is a specific measure of an attribute (e.g., length or colour). Within a variable, different values from different measurements can vary - hence the name 'variable'. For instance, age can be a variable for which data was collected and which varies between respondents.

Science
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