

Nienhüser, Werner; Peetz, David; Murray, Georgina; Troup, Carolyn

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Social media, the internet and the crisis of unionism

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WORKING PAPER FORSCHUNGSFÖRDERUNG

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Social Media, the Internet and the Crisis of Unionism

Werner Nienhüser, David Peetz and Georgina Murray
with Carolyn Troup

This Working Paper at a Glance

Public debates have been transformed by the internet and social media. This survey of employees in Germany and Australia asks: How are attitudes to unions shaped by use of traditional and social media and the internet? The results show that greater reliance on the internet and the use of social media tend to have a positive influence on trade union attitudes in both countries. It appears that even if social media spread anti-social conspiracy memes, they have little net effect in spreading anti-union ideology and may even be potentially useful for disseminating pro-union ideas.

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Summary

Media are a critical source for the formation of knowledge and values. Traditional media have been transformed and partly displaced by the internet and social media. Concern about social media has been heightened by their role in undermining public knowledge about the Covid-19 pandemic, leading to very strong associations between age, endorsement of conspiracy memes and social media use.

Unions, too, may be the victims of conspiracy memes — though they may be able to use social media as a tool for organizing. At the same time, union density has declined, and individualistic values have been promoted. This study looks at the relationship between attitudes to unions and the use of traditional and social media and the internet. It aims to address the question as to whether the rise of the internet and of the use of social media has caused critical damage to trade unionism.

We undertook surveys of a total of 3,235 employees in Germany and Australia, using online panels and common questions in both countries, in 2019 to 2020. Our dependent variables were attitudes to unions measured in two ways: (a) an index of three questions identifying people's general sympathy towards unions or their propensity to join; and (b) the use of a "free verbal association" technique to ascertain whether employees' first thoughts about unions were positive or negative. We first present the results of various bivariate analyses before moving to multivariate analysis nearer the end.

Are unions unpopular?

The general picture was of fairly positive attitudes towards trade unions in both countries, with German employees more positive than Australians. However, paradoxically, German employees were less likely to want to belong to a union (possibly due to differing institutional arrangements). In both countries younger workers were similar to, or more positive than, older workers, in their attitudes. The distance between union members and non-members appeared greater on both measures, at least in bivariate comparisons, which might reflect differing media landscapes and industrial histories in the two countries. Over the long run, there is little indication of any long-term shift towards more negative views of unions in both countries, or of increasingly individualized attitudes that would be inconsistent with unionism.

How much are traditional and social media used?

Germany revealed a lower level of general social media use than Australia but had a slightly greater use of social media for *politics* than Australia and indeed greater use of all available sources for obtaining political information. German employees appeared more politically engaged than Australian employees, and they appeared to interact over politics more often face-to-face.

In both countries young employees used social media more than older employees, but the age gap was greater in Germany. Young workers used most other sources (other than social media) less than older workers in Germany, but the story was more nuanced in Australia.

Union members used traditional media slightly more, and indeed used slightly more political sources of information, than non-members in both countries. There was no indication that the use of media for political information – whether it be traditional media or social media – has a negative impact on union membership. Greater use is associated with (slightly) greater likelihood of being a union member. However, there is a strong chance that the direction of causality is in the opposite direction.

Where do people find out about unions?

We asked about how often people heard or read about trade union issues through media and other outlets, focusing on the proportions answering “occasionally” or “frequently”. Trade union members seem to read or hear more about trade union issues and consistently reported a higher proportion of having occasionally or frequently read or heard about trade unions. This pattern occurred across all sources and in both countries. Reflecting the fact that unionism is an experience good, for union members in both countries the most commonly cited source of information about trade unions was “personal experience as a union member”.

For non-members, the most common source of information about trade unions in both countries was the traditional media. The data also suggested the possibility that German unions were more active in the workplace than Australian unions. German employees make more frequent use of social media than Australian employees to hear about trade union issues.

Younger Australian and German employees appeared more reliant than their older peers on information from school and university. Young people also talked more about unions with friends and family than did

older employees. Young workers also relied more than older workers on social media for information about unions.

For union members, either their experience as a member, or watching or seeing other members, delegates or officials of work, is cited by a majority as the single most important source. For non-union members, traditional media tends to be the most important source of information for both Australian and German respondents. The second most important source for non-members was talking with family or friends. Social media was less important in both countries.

In Germany, age differences regarding the reliance on social media for information about unions were small. In Australia, however, younger respondents appeared to rely more on social media than older respondents for information about unions. Even amongst the young, though, social media were less important as a source of information about trade unions than were traditional media, or even talking with family and friends.

Does media use affect union attitudes?

We also examined whether differences in media use are linked to differences in attitudes. The patterns are quite similar between the two countries. The effects of media use are by and large positive. However, the correlations between media use and union attitudes are rather weak. An overall high level of information use has a positive effect on union attitudes. The media effect is largely independent of age and union membership. The more information respondents obtained through social or traditional media, and also through conversations with friends and family, the more positive were their trade union attitudes.

There was also, separately, a positive correlation between the frequency of access to information about unions and both measures of positive attitudes towards unions. Using social media more often as a source of information about unions is linked to more positive attitudes about unions in Australia but not in Germany.

An individual's own experiences as a trade union member, but also their experiences with the trade union independent of one's own membership, have the strongest positive effect. The most positive union propensity is shown by people who cite direct experience, or meeting or seeing other members, delegates or officials, as their main source of union-related information.

The most negative union propensity is shown by people for whom the traditional media are their main source of union-related information. By contrast, those whose main source of information about unions is social

media have fairly typical union propensities. The findings provide some evidence for the hypothesis that in Australia the use of traditional media have a negative effect on attitudes towards trade unions.

We also investigated the relationship between internet reliance and union attitudes through three questions that assessed how disruptive it would be to respondents if they did not have internet access for a week. Greater reliance on the internet was associated with either no effect, or a positive link to trade union attitudes.

What did multivariate analysis show?

Heavier use of social media to find out information about trade unions was associated with more *positive attitudes about trade unions*, in both countries and by both measures. By contrast, after controlling for other factors, heavier use of traditional media usually had (with one exception) no significant relationship with trade union attitudes. Internet reliance was mostly, but not always, associated with more positive attitudes towards unions.

Younger workers (those aged under 30) were more likely to score highly on the positivity measure in both countries though the effect was less uniform on the other measure of union attitudes. There was a clear positive influence of union membership on attitudes towards unions. The effect of a “left” political attitude was also positive. Higher income tended to be associated with a less positive union attitude, but the effect of work centrality was more uncertain. Occupation had an impact in both countries, though in different ways.

Overall assessment

Overall, it appeared that the different socialisation that trade union members and non-members separately received mattered a lot. This socialisation also differed in relation to social status (measured in particular by income) and was also reflected in the influence of general political values.

The attitudes of younger workers to unions are, if anything, more positive than those of their older counterparts which is counter intuitive as there is lower union membership amongst young workers. While social media were more heavily used by young employees, this does not make for more negative union attitudes among young employees and cannot be blamed for the decline of unionism. The use of social media does not have an effect on whether people view trade unions more or less positively. In

general, the more information people seek and receive about political issues in general and about trade unions, the more positive their attitude towards trade unions is.

While trade unions could therefore usefully increase their use of social media for their information campaigns – this should have a positive effect on individuals' attitudes – the strongest positive effect still comes from proximity, from close individual contact with trade unions, be it through one's own membership or in contacts made with other trade union members.

It is not unique to the findings of our study to find that the young support for unions happens at the same time as their relatively poor union membership. There are other studies that show this equally positive attitude amongst younger workers despite their lower union density happening in most countries. The explanation for lower density might lie in the higher costs of less secure work, high union membership costs, difficulty in accessing unions or greater opposition from employers in their workplaces.

Our study is unique, however, in examining the specific impacts of social media usage and internet reliance on unionism, and we conclude that social media and the internet are not the enemy for unions. At worst there are no significant differences between workers heavily reliant on social media and those lightly reliant on social media in terms of their attitudes to unions. And at best those who are heavily reliant on social media and the internet are more pro-union. It may be that workers who are less isolated and more exposed to information from any source will be more positively inclined towards unions. Whatever the explanation, it appears that even if social media spread unfortunate anti-social conspiracy memes, they have little net effect in spreading anti-union ideology and may even be potentially useful for disseminating pro-union ideas.

1. Why are we here?

The rise of the internet and the emergence of social media have transformed the ways in which people access and transmit information. This has in turn led to grave concerns about how the prospects for union revival may be affected, in light of the potential impact on employees' attitudes.

Media are a critical source for the formation of knowledge and values. Traditional media have been transformed by the spread of the internet. Many newspapers have disappeared, their business models shattered by the loss of advertising revenue to search engines and online sites. Most that remain have adopted online persona. Broadcasting networks, in radio and especially television, have lost much of their value. Thousands of journalists have lost their jobs, and schools of journalism have restructured or closed.

The nature of journalism has itself changed. The availability of "click" counters has enabled owners and editors to identify, reward and punish those stories that generate much, or little, advertising revenue. Long-form journalism and investigation have given way to "clickbait" pieces that require little attention span and low-effort stories that mimic corporate or political press releases. This decline of analytical content could considerably disadvantage trade unions, who sometimes require complex arguments to combat a seemingly comfortable status quo.

In recent years, "social media" (including such forms as Facebook, Twitter, YouTube, Instagram and TikTok), enabled by the rise of the internet, have played an increasing role in the formation of knowledge, at least in part displacing traditional media. Concern about social media has been accentuated by the spread of disinformation through paid "trolls" and "fake news" (Ong/Cananes 2018) and heightened by their role in undermining public knowledge about the Covid-19 pandemic (Hughes/Machan 2021), leading to very strong associations between age, endorsement of conspiracy memes and social media use.

For example, one British study found that agreement with the statement "the current pandemic is part of a global effort to force everyone to be vaccinated whether they want to or not" amongst young workers aged 16 to 24, at 26 percent, was five times the rate amongst those aged 55 to 75 (5 percent), while agreement that "symptoms that most people blame on coronavirus appear to be linked to 5G network radiation" was ten times higher amongst this youngest (22 percent) than the oldest age group (2 percent) (Duffy/Allington 2020). Meanwhile, these young people were ten times as likely than the oldest age group to obtain a fair amount or a great deal of their information about coronavirus from YouTube, and

agreement with the 5G conspiracy theory was four times as likely amongst people who got their information this way.

Unions, too, may be the victims of conspiracy memes – for example, the idea that they are controlled by communists or part of a plot for communist domination, a popular idea in Australia in the 1950s and 1960s. So there is good reason for unions to be concerned about a medium that facilitates conspiracy memes and misinformation.

On the other hand, unions may be able to use social media as a tool for organizing, and one study shows how Twitter has been used for stakeholder engagement and to reach new audiences (Panagiotopoulos 2021). That said, it is doubtful that Australian workplace delegates make full use of Facebook and Twitter (Peetz et al. 2015).

Both forms of media shape our ideas and contribute to the development of the cognitive frameworks with which we interpret reality, including the reality of work. However, theory does not tell us to what extent, and indeed in which direction, media use or media exposure affect attitudes towards institutions of employee representation, including trade unions and, in the case of Germany, works councils. The media reflect material circumstances (such as the legal protection of employees, the regulation of industrial disputes, etc.) but may also alter the perception of the world of work (Köhler/Jost 2017) with indeterminate outcomes.

In the last four decades individualistic and neoliberal world views have been promoted through policy and media circles in many countries, including Germany and Australia. Reinforcing this, social media have enabled users to produce and disseminate information for and about individuals, for example through comments or posts on blogs or network platforms. While it is plausible to expect individual media sources to influence workers' perceptions of trade unions (and works councils) the question is: do they? Furthermore, do the media have an effect on trade union attitudes and what is that effect – is it positive or negative?

Our study is set in the context of the overall decline in union membership in the last thirty years. This has been accompanied by a decrease in union resources and power. This is not only a problem just for trade unions, but also jeopardizes, amongst other things, the functioning of collective bargaining systems for employers.

These declines in union density have occurred in both Australia and Germany. Despite considerable institutional differences, union density is currently at similar levels in the two countries – 14 percent in Australia (in 2018) and 16 percent in Germany (in 2019) (Schulten 2019, p. 15 f.)¹ –

1 Within this overall development, some unions have succeeded in gaining members respectively building up power resources. (cf. for Australia Ellem et al. 2020; for Germany Schmalz/Dörre 2013, Dribbusch 2019). Forsyth (2022) discusses issues like digi-

and similar to the OECD average (OECD/Aias 2021). Another similarity is that union density is much lower amongst younger workers than older workers (cf. Tapia/Turner 2018), though the decline in density among young people has been steeper in Australia. These similarities between the union densities in the two countries, alongside some major differences in institutional arrangements, suggest that a comparative study of the two countries could provide much useful information.

The rise of the internet, and in particular the growth of social media, have coincided with the decline of trade unionism and this naturally encourages the question as to whether these issues are related. The internet has seen a proliferation of information but also the emergence of tech giants, headed by people whose sympathies may not lie with the union movement. Social media have popularized but atomized communications between people who would not have otherwise been able to engage in two-way information flows, but this may create individualized “echo chambers” which alternative ideas may find hard to penetrate. The growth of “fake news”, and the growth of the belief that much of what is real is actually “fake news”, adds to these concerns.

We cannot, in this study, look at the actions of tech giants regarding unions or the content of viral social media posts on employment relations matters. We can, however, look at the relationship between attitudes to unions and the use of traditional and social media and the internet. That is the focus of this report. Analysis of the factors influencing attitudes towards trade unions can provide valuable information about influences on low union density, and in particular address the question as to whether the rise of the internet and of the use of social media has caused critical damage to trade unionism. This in turn may have practical implications for union organizing.

2. State of current research

The decisions that influence what people think about an object (that is, what they know about it and how they evaluate it) are well-researched (see the overview in Haddock/Maio 2014). Their findings underscore the importance of attitudes in decision-making and actions (for example, in the organization of trade unions, and of participant activities).

However, there are few studies addressing how the media influence what employees think and feel about trade unions. Similarly, there is little research on how the media create and use images of trade unions and how these images (negatively or positively) affect the willingness of employees to join or remain in a trade union.

Studies show that images of the world of work and industrial conflicts are produced by the media and shaped by journalists (for Germany see Köhler/Jost 2017 and Prott 2005, for Australia see Zeitzoff 2017 and Cottle 2006). But there are few studies on the effects on employees – how media images are perceived by workers. Here we briefly outline the main studies and their limitations and why we consider that further research is needed to fill the existing gaps.

The present studies can be summarized in three groups in terms of a simple sender-receiver communication model, which is simple but more than adequate for the purposes of presenting the state of research. First, there are a small number of media analyses that examine the image of trade unions in the media and how they came about. These studies deal with the source of information that could affect workers. A second group of studies focuses on the results of information processes: what and how much workers know about trade unions. A third, particularly important, group of studies investigate connections between media use, media images and beliefs about trade unions. While there are only a few studies on the first two groups mentioned, there is no major study in the third group – a gap our study wants to close or at least narrow.

2.1 Images generated by the media

A German study by the Otto Brenner Foundation (Köhler/Jost 2017) examined the portrayal of wage conflicts in the media and came to the following conclusions: It is not so much the communication strategies of the bargaining parties that have an influence on the presentation, but above all the relevance criteria and the decisions of journalists based on these. The main focus is on conflicts that have consequences for many people, such as strikes in day care centres, by pilots or locomotive drivers. This

often creates the impression that strikes disturb public order and that the trade unions should concede in order to end the dispute. According to the authors, such a presentation would endanger the legitimacy of collective bargaining conflicts:

“In a reality that is still very strongly communicated and thus shaped by the mass media, unions and management are decisively dependent on how they and their actions are presented to the media in order to gain public trust and broad legitimacy. Otherwise, they would have to fear for their ability to act and the German social partnership would lose its effectiveness” (Köhler/Jost 2017, p. 105; translation by the authors).

Köhler and Jost (2017) examined the reporting by newspapers and the German Press Agency (Deutsche Presse-Agentur). In our opinion, analyses related to other media are also necessary, especially those that work with visual representations (including television and social media).

2.2 Knowledge about and attitudes towards trade unions and works councils

Knowledge about trade unions is quite limited and the conceptual ideas of what role trade unions (should) have are very heterogeneous. The study by Josef Held et al. (2011) examines “what moves young people” and what they think about the role of trade unions. His analysis focuses on the service sector in two regions. The focus was on the willingness to act in solidarity. One result of this study is that very different ideas are being associated with trade unions. Some respondents see unions more as a representation of purely occupational interests, while others see trade unions as socio-political actors.

An older Australian study (Davis 1979) showed that television, radio and newspapers were the most important sources of information about trade unions. According to this study the media landscape is characterized by a very high concentration and that media reporting is dominantly anti-union. A recent study in Australia found that young people in particular had very limited knowledge of what trade unions do (Bailey et al. 2010). In a large-scale German survey, Wilkesmann et al. (2011) found that around a quarter of the respondents indicated a very high or high level of knowledge of German works councils, while 16 percent said they had “no idea” (p. 192; Nienhüser et al. 2018 find a very similar result).

International comparative surveys show considerable differences in the attitudes towards trade unions between Australia and Germany (authors calculations based on International Social Survey Research Group (ISSP 2017)): In Australia, 47 percent agree with the statement: “Workers need

strong trade unions to protect their interests”, while in Germany the figure is 73 percent. The statement “Strong trade unions are bad for Australia’s (Germany’s) economy” is rejected by 37 percent in Australia, while the corresponding proportion in Germany is significantly higher at 59 percent.

If we consider the approval or rejection of these statements differentiated by trade union membership (currently member; formerly member, but currently not; never member), it can be seen that among both members and non-members in Germany the proportion of respondents with a positive attitude is considerably higher. The study by Wilkesmann et al. (2011) shows that trade unions are predominantly viewed positively in Germany: 75 percent of those surveyed consider trade unions to be important. We assume that these differences can be attributed to the structure of the workforce and activities as well as to the legal and cultural context, among other things, but also in part to the more negative media presentation in Australia.

2.3 Studies on links between media use, the unions image in the media and thoughts about trade unions

There are no studies on this subject. However, findings of two studies are to some extent related to our questions. Panagiotopoulos (2012) interviewed 229 members of a Greek trade union in the banking sector about their use of the media. That author also points out that there are few studies of the role of social media in the context of trade unions. The central dependent variable of the Panagiotopoulos study is whether union members perceive the use of social media by the union as meaningful. This study is therefore interesting but not very central to our concerns.

Although a second older German study does not directly analyse media effects, it does provide empirical evidence that the image that people have of a particular trade union may influence their actions or intentions: for Germany the 2005 survey of IG Metall members ($n = 1,230$) showed that reported contemplation of leaving the trade union was associated with that particular union’s public image, or at least its effect on the respondent’s reputation (Pyhel 2006, p. 345, and 2008, p. 47). This effect was stronger than the respondents’ assessment of whether they felt well-represented by the works council, even after controlling statistically for other influencing factors (such as demographic variables, job security, representation by the works council and political attitudes).

The current state of research can be summarised as follows: Studies are available on the image of trade unions in the media that include atti-

tudes towards trade unions. However, what has not yet been adequately researched is whether employees who differ in terms of the type and extent of their media use also perceive and evaluate trade unions differently.

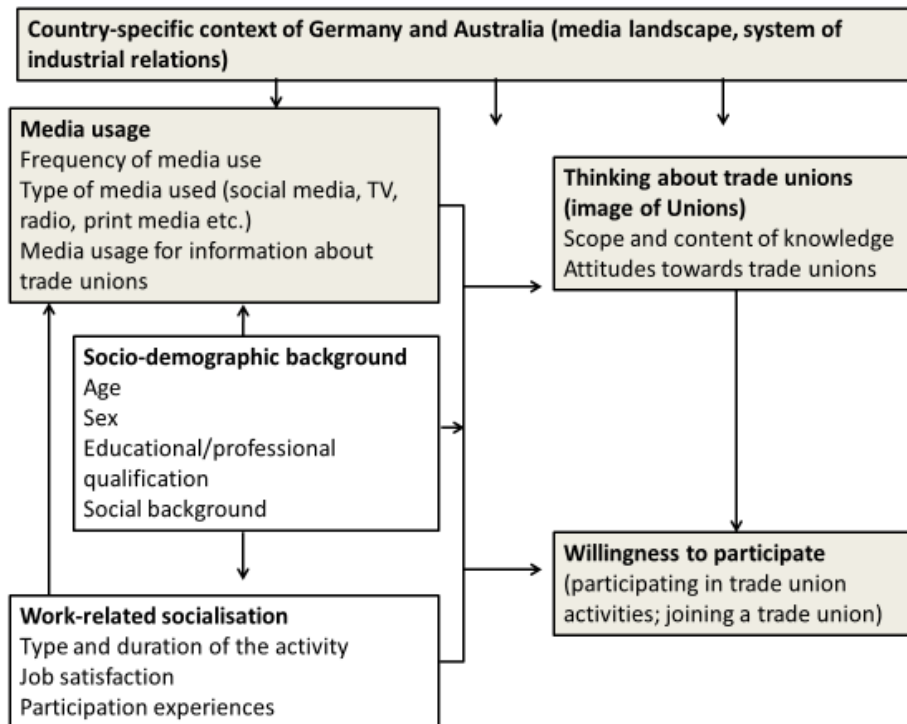
3. Framework and methodology

Our research project aims to examine the influence of the nature and extent of media use on *individual thinking* about trade unions in Germany and Australia. By this we refer to how much a person knows about trade unions, how this knowledge differs in content between people and how trade unions are evaluated. Someone can therefore know much or little: they can perceive trade unions, for example, as representations of professional interests alone or as socio-political actors (see the above-mentioned findings of Josef Held et al. 2011), and they can assess trade unions positively or negatively. Here and in the following we conceptualize thoughts about trade unions with that of attitudes towards trade unions. In this report we concentrate on one dimension of thoughts – the evaluative dimension.

3.1 Analytical framework and research questions

We want to answer the following questions in detail, which we first illustrate schematically in a diagram (Figure 1) and then explain.

Figure 1: Conceptual framework



Source: Illustration by the authors

The groups of variables highlighted are the focus of this report. That said, we acknowledge the non-shaded factors as influences, and where possible treat them as control variables for the interpretation of multivariate results. We ask the following questions:

- What types of media (social media, TV and radio, print media, etc.) influence the attitudes towards unions?
- How do the background and experiences of other family members affect the formation of attitudes towards trade unions?
- How do the above factors differ between young and old?
- What is the role of trade union membership and experience?
- What are the differences between the two countries?

A distinction should be made between direct and indirect effects. First, the media are likely to present a country-specific image of trade unions, so differences should be seen in the attitudes of the respondents. However, this effect is mediated by the extent of media use, which can differ, and thus have an indirect effect. In addition, the different legal and institutional

conditions of the respective country may have an influence. So, we make mention of the most obvious factors that might explain certain cross-national differences, but do not have the space or the data for a full, detailed comparison.

In this report, we cannot pursue all the questions we would like (such as “Do attitudes towards trade unions affect the willingness to join a union and engage in union activities?”) or examine all interrelationships. In later publications we will include more and other variables. For instance, in Germany we have not only asked for attitudes towards trade unions but also towards Works Councils. Here we concentrate on variables and questions which are relevant to both countries. We focus on the following two guiding questions:

Question 1: Does the use of social media and the internet (compared to the use of more traditional media) have an influence on attitudes towards trade unions?

According to previous findings, traditional media tend to portray a negative image of trade unions. Perhaps this is amplified by social media; some argue social media promote democratisation of media while others argue they promote an “echo chamber” in which only a narrow range of voices is heard. Whether social media promote positive or negative views of unions is an open question. Causality may also operate differently: perhaps those who seek a lot of political information in the media are more likely to have a positive attitude towards trade unions.

Question 2: Are there any differences in the attitudes between younger and older employees and are these differences due to (social) media effects?

Younger and older workers are likely to differ in their use of media, and if this has an effect, then we also should find attitudinal differences. Younger and older workers do not only differ in their media usage, but also in their experiences. Older workers have a higher chance of having had more experiences with work and with trade unions. These experiences contribute to shaping their attitudes. Such experiences are not present or only to a lesser extent among the younger workers. So we should find age effects on the attitudes towards unions. The question as to whether such age effects are positive or negative can be answered empirically.

3.2 Questionnaires and samples

In both countries, the research was undertaken using an online panel. The panel was provided in each country by a commercial supplier, using respondents who had signed up to that provider. The population in each country was employees aged 16 to 65 years. The questions asked in each country were developed by the researchers and, after allowance for translation (they were expressed in each country's main national language), were mostly the same in both.

The questionnaire was developed jointly by the authors for both countries. The majority of the questions are identical in form and content but differences for a few questions were necessary to take into account specific contexts in each country. For example, the questions that refer to works councils are relevant only for Germany. Also differentiations were necessary on the questions relating to specific forms of media use in each country e. g. in order to record the country-specific TV programmes, newspapers, etc. (Copies of the two questionnaires and a description of how variables were constructed are available on request from the authors.)

There were, however, differences of detail between the two countries. In Germany, the survey was conducted with the help of the questionnaire we developed as an online survey (CAWI) by the company Bilendi GmbH, Berlin. In total, data from 1,051 respondents was collected in the second half of March 2020. The basic population is made up of employed persons (part-time and full-time employees without civil servants and interns) with residence in Germany aged between 16 and 65 years.

With these specifications, the sample was drawn from the so-called "Opinion Place Panel" (Meinungsplatz-Panel) of Bilendi GmbH. The sample was stratified by age and gender. The age group 16 to 29 years accounted for 33 percent and the 30- to 65-year-olds accounted for 67 percent. Men and women are each represented in equal numbers. These quotas were specified in the survey. If the required number of cases for a quota cell was reached, all participants with these characteristics were excluded from further questioning. New invitations were only sent to quota cells that were still open. The selection of panel participants was random within the quotas.

In total, invitations to participate in the survey were sent to 8,264 persons, of whom about 19 percent responded. 29 cases were excluded due to poor response quality. Problematic answers are those in which the respondents answer the questionnaire so quickly that they can hardly have read the questions, as well as those answers that showed contradictions in a test question. Information about the pool from which respondents

were drawn can be found at the Bilendi Panelbook website: www.bilendi.de/static/panelbook.

For the Australian survey, the procedure was similar. In this case, the online provider was called Quality Online Research. Some Australian 2,184 observations were included in the dataset. (Hence the total sample across both countries was 3,235.) The method was broadly similar to that used in Germany, so we do not repeat it here, other than to detail the extensive effort into cleaning the Australian data.

One of the problems with online panels is that, because respondents may complete the survey solely for pecuniary reasons, they may give answers that are not a reflection of their true views. While this is a danger in all surveys, and no doubt affects most survey datasets, it is a particularly large potential problem in online panels because of the financial incentive to complete. Commercial survey organisations, including the one that collected these data, attempt to overcome this problem by quality checks that inspect for “speeders”, look at responses to open ended questions and check for “flatliners”. However, not all false responses will be picked up by these methods.

Examination of the preliminary data revealed several implausible sets of responses, many linked to the opportunity for respondents to answer variants on “yes” to multiple questions.

For example, some respondents agreed both that “Strong trade unions are bad for Australia’s economy” and “Workers need strong trade unions to protect their interests”, some agreed both that “Work is only a small part of my life” and “The most important things that happen in my life involve work”, and 41 percent of those who agreed with the latter pair of statements also agreed with the former pair of statements (compared to only six percent amongst those who did not agree with both of the latter statements). Ten percent of respondents claimed to be labour hire workers (compared to more like one percent in ABS data) and of those only 27 percent reported being casuals (compared to 79 percent in ABS data), and an implausibly high 43 percent of reported labour hire workers claimed to be in a trade union.

We dealt with this by removing from the Australian dataset those we deemed “low quality responses”. These were cases where participants claimed at least two of the following three low-plausibility responses, all of which flowed from multiple “yes” responses: agreeing both that “Work is only a small part of my life” and “The most important things that happen in my life involve work”; agreeing both that “Strong trade unions are bad for Australia’s economy” and “Workers need strong trade unions to protect their interests”; and being a labour hire worker in a permanent job.

This eliminated 123 observations (about six percent of cases) from the dataset and removed bias towards other “yes” responses. For example: 40 percent of “low quality” responses (versus nine percent of “high quality” responses) indicated that the respondent “frequently” talked with family or friends about trade union issues; 36 percent (versus eight percent) “frequently” followed internet links about union issues; and similar differences existed in relation to all other sources of information about unions. Similar differences existed with respect to general usage of various media for new or political content (but not for use of social media for any purpose). The deleted cases were replaced, and the replacement cases checked.

While this approach could not have removed all dubious responses from this (or any other) survey dataset, it largely eliminated the pattern of consistent erroneous data that would create false positives in analysis. Residual dubious responses would add to the white noise (or standard errors) in the data but be mostly unlikely to create false positives.

We subsequently checked the data for representativeness and found that it tended to over-represent union members and under-represent young workers (see Table 1 for a comparison of the Australian and German samples). If we had weighted the data by age group and union membership status, using benchmark data from the Australian Bureau of Statistics “Characteristics of Employment” data (Cat No 6333.0) from August 2018, the weights for individual cells would have ranged from 0.40 to 1.59. This weighting would have had a discernible but small impact on the Australian findings.

That said, the data in both countries are not a random sample and therefore, caution should be exercised when generalising our statements to the entirety of the employed population in each respective country. We have to take into account that the respondents are paid. Therefore, first, we do not want to make any generalisations without referring to the way the samples are drawn. Second, in both samples we oversampled younger workers in order to have enough cases, to carry out detailed analyses within the age groups. In the Australian data, it should also be noted too that the proportion of union members is higher than in the population. In Germany, the proportion is pretty much the same as in the population or in other samples that are considered as representative.

For Germany, when we started our empirical analyses, we used weights based on official data from Federal Employment Agency for 2020 (www.deutschlandin zahlen.de; retrieval date: July 11, 2020). However, our analyses with weighted and unweighted data show hardly any differences in the results; the findings are thus robust to the weightings. For example, the age-weighted data show an average union density of 18.8

percent, the unweighted data of 18.5 percent (including those who did not want to answer the question).

Consequently, we use unweighted data for the analysis, because in most analyses we control for age or union membership anyway, so the results will be close to those for the population. Moreover, in the regressions (the last part of the report), age and union membership are used as control variables anyway, and in those circumstances unweighted are often more efficient than weighted estimates for regressions, not least because weighted data would necessarily increase the sampling error on all estimates and therefore diminish statistical power (Solon et al. 2013, p. 15–16).

3.3 Measurement of central dependent variables: Attitudes towards trade unions

The dependent variables are various measures of approval of trade unions. We used three Likert-scale questions in both countries: “Workers need strong trade unions to protect their interests”, “Strong trade unions are bad for Australia’s/Germany’s economy” and “If I were totally free to choose, I would rather be in a union than not in one”. The first two are measures of general sympathy towards unions, and the last of these has been described as measuring “union propensity” (Peetz 1998).

These three questions are measured on Likert scales and they intercorrelate quite highly (between $r = .41$ and $.55$ in absolute terms). We used them (with reversed coding for the third question) to create an additive index, Union Attitude Index (UAI), with a Cronbach’s alpha of $.74$. We divided the sum by 3 (the number of items). This results in a scale whose values can range from 1 to 5. Values of 4 and higher indicate a positive attitude. For simplicity of presentation, we have also created a dichotomised form of this index, distinguishing between positive and other attitudes (whereby if the original value ≥ 4 , the dichotomous version has a value of 1, otherwise it is set to 0).

The closed-response Likert-type questioning technique has two problems: It may not accurately capture aspects of attitudes. It may be that certain aspects are important to the respondents that are not addressed in the questions. In other words, the researcher imposes her or his frame of reference on the interviewee. For example, respondents may see other features of trade unions that go beyond their benefits to workers. On the other hand, the tendency to behave in a socially desirable way may also be reflected in the answers and thus distort them.

To reduce these problems, we applied a second questioning technique that makes use of open associations and is known in the literature under the term “Free Verbal Associations” (FVA), among others. The basic idea of this procedure (De Rosa 2002; Kirchner et al. 1998) is that spontaneous verbally expressed (in writing or oral form) associations that occur to a person about a stimulus concept can be used to capture the evaluative dimension of attitudes, and their content.

The basic procedure for applying this method is as follows: First, respondents were shown the term “trade union” (in Germany: *Gewerkschaft*).² Then they were asked what spontaneously comes to mind about this term “trade union”. Respondents were asked to express the association in a single word (and not in a single sentence). For each of the associated terms, respondents were asked to indicate whether they rate it as a positive, neutral or negative word (cf. Peetz 2015; Nienhüser 2016; Nienhüser et al. 2018). This method has been successfully tested and applied by the authors. Nienhüser et al. (2016) conducted a telephone survey of more than 3,000 people on attitudes towards co-determination in Germany. In Australia Peetz, Murray, Nienhueser and Muurlink (2015) used this method to survey how workers in mining and power generation rate their working time regime.

The association method has several advantages. The evaluation of trade unions (the attitude) can be captured through the positive or negative evaluation of the associations, and it captures thoughts indirectly, as respondents focus first on, and disclose the stimulus before they evaluate the associations they have mentioned, and these evaluations capture their attitudes to the stimulus object. This should therefore also avoid any effects of social desirability, minimal as these may be in an online survey. It also avoids the narrowness of closed choice questions, enabling an integration of qualitative and quantitative data.

In this report we concentrate on a very simple measure, based on whether a respondent evaluates his or hers first word associated with “trade union” as positive or not. We call this the Positivity Measure (PM). In the methodological literature on FVA the first association is seen as the most important one. The correlation between the “positivity” of the first and the second association (coding: positive = 1; else = 0) is $r = .60$ for Australia and $r = .55$ for Germany.³ Therefore we will use the evaluations of the first association in the following analyses. In this report we do not discuss the content of the association; this complex process is reserved for subsequent publications.

2 For Germany we also used “Works Council” (*Betriebsrat*) as stimulus word.

3 For the coding positive = 3, neutral = 2, and negative = 1 the correlations are even higher; $r = .66$ for Australia and $r = .58$ for Germany.

3.4 Data analysis and independent variables

In a first part of this discussion, we perform bivariate descriptive (mean and percentage comparisons, correlations) analyses. Our main independent variables in the following analyses are media usage, age and trade union membership, and we control for country. We explain the construction of these variables in more detail later in the report. The dependent variable is attitude towards trade unions, referred to as “Union Attitude Index” described in the section above.

In the second part we perform regression analyses controlling for age and media effect on trade union attitudes and other possible influences (for example occupational status). We describe the details of the construction and operationalization of the variables in the analyses section. Regression analyses are performed separately for both countries and the results are then compared in order to identify the possible direct or indirect influence of the country-specific features. We do not want to elaborate on the background of country effects in details and depth, as our focus is on the media effects for younger and older employees, nevertheless we allow for possible country-specific differences by showing separate equations for Australia and Germany.

4. Empirical results

4.1 Description of the sample

For context, we present a short description of trade union membership and age in the datasets for both countries in Table 1.

Table 1: Trade union membership and age

	Australia	Germany
Age		
15–19	4.5 %	2.6 %
20–24	8.0 %	9.6 %
25–34	19.0 %	32.1 %
35–44	25.8 %	21.6 %
45–54	23.8 %	19.1 %
55–59	11.4 %	10.3 %
60–64	7.0 %	4.5 %
65 and over	0.4 %	0.3 %
Total (n)	100 % (2,184)	100 % (1,051)
Mean age (Standard deviation)	41.3 (12.7)	38.8 (12.5)
Proportion of young employees (under 30)	21.3 %	33.3 %
Trade union member	20.7 %	18.8 %

Source: Online surveys conducted in 2020

In the unweighted samples, 19 percent of German employees, and 21 percent of Australian employees, were current union members. Thus, the Australian sample, by a greater margin than the German sample, over-represented union members. Altogether, 42 percent of the Australian sample had at some stage been a union member, as had just 33 percent of the German sample. In Australia only 49 percent of those people were still in a union, compared to 55 percent in Germany.

This difference reflects the greater decline in union density over several decades in the two countries. In 1990, density was 36 percent in Germany but higher at 41 percent in Australia (Visser 2016). Thus, while density in

Australia fell to little more than a third of its previous level three decades later, in Germany it was closer to 45 percent of its previous level. The declines in the numbers of members were considerably smaller than the falls in density, due to growth in the labour force in both countries. Some people who left unions had retired before the survey, and so would not have been represented in the survey population as they were no longer employees.

The Australian respondents were on average two years older than the Germans. The mean age for Australia was 41 years and 39 years for Germany, with a standard deviation of twelve years in both countries. In the following analyses we differentiate between two age groups: younger than 30 years and 30 years and older.

We discuss first the use of social media then we look at sources of information about trade unions, links between trade unions attitudes and frequency of media use and links between trade unions attitudes and reliance on the internet.

4.2 Attitudes to unionism by age and trade union membership

The general picture overall shows fairly positive attitudes towards trade unions in both countries, with German employees more positive than Australians. However, paradoxically, Germans were less likely to want to belong to a union. In both countries younger workers were similar to, or more positive than, older workers, in their attitudes (as Table 2 and 3 show).

Respondents generally exhibit positive attitudes to trade unions. Some 69 percent of German respondents agreed that workers need strong trade unions to protect their interests, somewhat higher than the Australian figure of 56 percent. In Germany there were nearly no age differences (between the attitudes of employees aged above and below 30 years) whereas in Australia younger workers were only slightly more positive (59 percent of those aged under 30 years agreed, as did 55 percent of those aged 30 and over). In Germany 51 percent disagreed with the statement that strong trade unions were bad for Germany's economy, while only 12 percent agreed. In Australia, 38 percent of Australians disagreed that employees in strong trade unions were bad for Australia's economy, still more than double the proportion who agreed (18 percent); a plurality (44 percent) would neither agree nor disagree.

Wanting to belong to a union (union propensity) was slightly higher in Australia than Germany, 37 percent of Australians agreed that "If I were totally free to choose, I would rather be in a union than not in one", while

only 29 percent disagreed. Again, a substantial proportion (34 percent) neither agreed nor disagreed, unlike with the other general attitudinal indicators. Among Germans only 32 percent of employees agreeing with the statement and 29 percent disagreed. In neither country was there any indication that union propensity was lower amongst younger employees; indeed, union propensity was slightly higher amongst younger employees in both countries.

The lower union propensity in Germany was also consistent with the lower incidence of union membership in the German sample (but not the German labour force). The contrast with the considerably more positive union ideology, as measured by the other two questions, in Germany suggests that there may be more opportunities for free riding in Germany than in Australia.

It may be easier for employees to gain many of the benefits of union membership, without belonging to a union, in Germany. This is supported by the fact that collective agreements covered 44 percent of German employees in 2019, whereas union agreements only covered 36 percent of Australian employees. This suggests that at least 28 percent of German employees may get the benefit of a collective agreement without belonging to a union, whereas that would be the case for 22 percent of Australian employees.

It does not follow, though, that union membership could be improved by making it harder for collective agreements to cover non-members. In the USA, for example, very few non-members are covered by collective agreements, but union density is amongst the lowest amongst advanced industrialised countries.

Table 2: Union attitudes by age (in percent)

	Australia			Germany		
	Under 30	30 and older	Total	Under 30	30 and older	Total
Workers need strong trade unions to protect their interests. (agree)	59	55	56	70	68	69
Strong trade unions are bad for Australia's / Germany's economy. (disagree)	39	38	38	51	52	51
If I were totally free to choose, I would rather be in a union than not in one. (agree)	42	36	37	36	30	32
High Union Attitude Index (UAI) (index values ≥ 4)	28	30	29	33	32	32
Positive associations (for first stimulus word)	51	40	42	57	48	51
Negative association (for first stimulus word)	14	32	28	9	18	15

Source: Online surveys conducted in 2020

Union propensity correlated strongly with union membership (Table 3). In both countries, almost none of those who did not want to belong to a union actually belonged to a union (five percent in Germany, eight percent in Australia). In both countries, a majority of employees who wanted to be in a union were in one (that is, they had positive union propensity) – 72 percent in Germany, and 75 percent in Australia – and only small proportions of those with neutral union propensity (they neither agreed nor disagreed) were in a union – 23 percent in Germany and 17 percent in Australia.

That is, in both countries, roughly three quarters of people who wanted to be in a union were in a union, and almost no-one who did not want to be in a union was actually in one. Notably, though, it was amongst those who had had neutral union propensity (that is, they neither agreed nor disagreed that they would rather be in a union than not be in one), that density was observably lower in Australia than Germany. Institutionally, it

appears that the “default” position favours non-unionism even more in Australia than in Germany.

Table 3: Union attitudes by union membership (in percent)

	Australia			Germany		
	Non-union member	Union member	Total	Non-union member	Union member	Total
Workers need strong trade unions to protect their interests. (agree)	49	82	56	64	88	69
Strong trade unions are bad for Germany's/Australia's economy. (disagree)	32	62	38	47	67	51
If I were totally free to choose, I would rather be in a union than not in one. (agree)	27	75	37	23	72	32
High Union Attitude Index (UAI) (index values ≥ 4)	20	61	29	24	66	32
Positive associations (for first stimulus word)	35	69	42	45	75	51
Negative association (for first stimulus word)	33	10	28	18	5	15

Source: Online surveys conducted in 2020

While the relationship between union propensity and union membership is otherwise broadly similar across the two countries, that is not so with the other two components on union attitudes. The polarization or “distance” between members and non-members is larger in Australia. In particular, attitudes of non-members in Australia are about 15 percentage points more negative in Australia than Germany, whereas the gap is only 5 to 6 percentage points among members. We would expect that media would have a bigger impact on the attitudes to unionism of non-members than of members, as unionism is an experience good, and for members the experience of unionism (or at least, observing how it affects fellow

unionists) would reduce to some extent the impact of media and other influences on their attitudes.

If this is indeed the case, then the impact of the different media landscapes in the two countries is worth considering. In Australia, three quarters of daily newspaper circulation is under the ownership of Rupert Murdoch's News Corporation, which hosts some of the largest internet news sites, and it has long taken a very conservative view of trade unions (McKnight, 2012). Media ownership is more diverse, and hence less pugilistic towards unions, in Germany. This difference in traditional media ownership may help explain the difference in attitudes of non-members towards unions.

That said, there may be other factors at work that help explain the more negative view of unions in Australia than Germany. The Australian public has long had a more negative view of unions than most other developed countries for which data could be obtained (Peetz 2002). Indeed, on one question – whether unions had too much power – the gap between Germans and Australians was 30 to 40 percentage points in the 1980s and 1990s, compared to the 13-percentage point gap shown in this survey on differently worded questions (see for detailed sources Peetz 2002).

Aside from the differing media landscapes, the popularity gap between unions in Australia and other countries in earlier decades was attributed to the impact of communism on union legitimacy in Australia (whereas in Germany unions had more often campaigned against communism) along with Australian unions' reliance on the tool of compulsion (not commonly used in Germany) to enforce membership and participation in industrial conflict (Peetz 2002).

As time has progressed, those historical factors wane in their influence, but the differing media landscapes of the two countries retain their contemporary salience in shaping the externally-generated reputational factors that appear to be more negative for Australian unions than for German unions. Over the long run, it should be added, there is little indication of any long-term shift towards more negative views of unions in a number of countries, or of increasingly individualized attitudes that would be inconsistent with unionism (Peetz 2002, 2010).

On the word association question, 51 percent of German employees rated their first word in relation to trade unions as positive. By comparison, in Australia, 42 percent rated their first word about Australian trade unions as positive. Although 28 percent of Australians compared to 15 percent of German employees rated their first word as negative. In both countries, younger workers gave more positive and less negative ratings about trade unions than did older workers.

Also in both countries, the cross-country gap in the incidence of positive or negative responses was greater amongst non-members (10 to 15 percentage points) than among members (5 to 6 percentage points). While German non-members gave positive first responses that outweighed the negative ones by a ratio of 2.5:1, in Australia the ratio of positive to negative first responses was almost even amongst non-members. Again, this seemed to reflect the greater impact that externally-generated reputational factors have on non-members than members, and the more negative those externally-generated reputational factors appear to be in Australia than Germany.

4.3 Media usage by age and trade union membership

Media usage in each country is shown separately for older (30 years and over) and for younger (under 30 years) workers in tables 4 to 7. In tables 4 and 5 we analyse media usage for general or political purposes, while tables 6 and 7 show which media are used for getting information specifically about trade unions.

Media usage for general or political information

Respondents were asked about their media usage for general or political purposes through the question “On average, how often do you read or watch etc...” referring to different types of media and content (that is, political or any different content). We also included a question about how often the respondents “talk with friends and acquaintances about politics”, a potentially relevant channel of information and socialisation besides the use of what we subsume under the term “media” in a narrower sense. When, below, we discuss “traditional” media, we are referring to the item captured by our first question, covering political content “in a newspaper, magazine, television or an online version of any of them”.

We constructed Media usage in two ways, frequency and number of forms. First, we constructed a binary variable of media frequency (1 = at least once a day; 0 = less than once a day). Then we constructed an index of political sources, which is a count of the number of political information sources. The index can run from zero (no media are used at least once a day) to 4 (all four media are used for political information at least once a day), where a value of 4 as high intensity. It is shown as the last row in Tables 4 and 5.

Tables 4 and 5 also include a fifth question, which explicitly asks about how often respondents use social media for *any* purpose. This item is not included in the index of political sources.

As shown in Table 4, Germany revealed a lower level of general social media use than Australia but had a slightly greater use of social media for *politics* than Australia and indeed greater use of all channels for obtaining political information. That is, Australians used social media more for “any purpose” than Germans, but when it came to using social media for political news, Germans did it more often than Australians.

In Germany, 58 percent of employees used social media for some purpose at least once a day. 48 percent used social media for political content. The overall figures were much higher in Australia, where 75 percent used social media for some purpose at least once a day, but Australians used social media less than Germans for political content (38 percent, little more than half of social media users). In both countries young employees used it more than older employees, but the age gap was greater in Germany.

Table 4: Sources for political information by country and age (in percent)

Country	Australia			Germany		
	Under 30	30 and older	Total	Under 30	30 and older	Total
On average, how often do you... (at least once a day)						
Read or watch the political news or political content in a newspaper, magazine, television, or an online version of any of them	44	49	48	65	74	71
Read or watch political news or political content in an online source that is only available on the internet	44	36	38	58	66	63
Talk with friends or acquaintances about politics	24	18	19	46	53	51
Read or watch political content on the social networks on your phone or the internet (for example, Facebook, Twitter, Snapchat or Instagram)	49	35	38	58	43	48
Use, for any purpose, social networks on your phone or the internet (for example, Facebook, Twitter, Snapchat or Instagram)	88	71	75	71	52	58
Use three or more sources for politics (values ≥ 3 on index of political sources)	34	25	27	49	52	51

Source: Online surveys conducted in 2020

Germans, in particular, appeared to talk to each other a lot more about politics than do Australians. This seems to be partly because Germans were more politically engaged (they more commonly sought information from traditional media or online sources about politics) but also, they just appeared to interact over politics more often face-to-face (this was the issue on which the cross-national gap was the greatest). Traditional news media were used much more by Germans than Australians. Some 71 per-

cent of Germans, but only 48 percent of Australians, read or watched political news or content in a newspaper, television or radio, or an online version of them, at least once a day. In both countries, purely online media were used only a little less than traditional media.

Young workers used most other sources (other than social media) less than older workers in Germany, but the story was more nuanced in Australia. There, younger workers appeared less likely than older workers to use traditional media for political news, but more likely than older workers to use purely online media or to talk. Older Australians seemed particularly reluctant to use their vocal cords when it comes to politics, by comparison with German workers.

Younger workers in both countries, rated social media as more important than did older workers, both for political news and for other information. In Australia, but not Germany, social media in general appeared more important for young people as a source of political news than “traditional” media.

Comparing union members and non-members (Table 5), we see that union members used traditional media slightly more, and indeed used slightly more political sources of information, than non-members in both countries. Reflecting what appears to be greater political engagement among union members, the data also suggest that union members used social media for political news slightly more than non-members. It was only in Germany, however, that members used social media for “any purpose” more than non-members: in Australia the gap was very small and in the opposite direction.

Overall, the number of sources of political information used by respondents was higher in Germany than in Australia. Compared to this national difference, the influence of age and trade union membership were relatively small.

From this there was also no indication that the use of media for political information – whether it be traditional media or social media – has a negative impact on union membership. Greater use is associated with (slightly) greater likelihood of being a union member. However, there is a strong chance that the direction of causality is in the opposite direction. That is, union members may be more interested in political news than non-members, and so seek out political information more often and from a wider variety of sources. So we should also consider the data on media information about trade unions in particular, and that is what we turn to in the next section.

Table 5: Sources for political information by country and trade union membership (in percent)

Country	Australia			Germany		
	Non-union member	Union member	Total	Non-union member	Union member	Total
On average, how often do you... (at least once a day)						
Read or watch the political news or political content in a newspaper, magazine, television, or an online version of any of them	46	53	48	70	74	71
Read or watch political news or political content in an online source that is only available on the internet	37	41	38	62	68	63
Talk with friends or acquaintances about politics	18	24	19	49	58	51
Read or watch political content on the social networks on your phone or the internet (for example, Facebook, Twitter, Snapchat or Instagram)	37	43	38	46	55	48
Use, for any purpose, social networks on your phone or the internet (for example, Facebook, Twitter, Snapchat or Instagram)	75	73	75	57	61	58
Use three or more sources for politics (values ≥ 3 on index of political sources)	26	31	27	50	58	51

Source: Online surveys conducted in 2020

Media usage for information about trade unions

Data about where respondents obtained their information about *trade unions* are shown in table 6 to 9.

Tables 6 and 7 show the frequency of hearing about trade union issues through media and other outlets, showing the proportions answering “occasionally” or “frequently”⁴ in each age group.

Not surprisingly, trade union members seem to read or hear more about trade union issues and consistently reported a higher proportion of having occasionally or frequently read or heard about trade unions. This pattern occurred across all sources and in both countries.

Reflecting the fact that unionism is an experience good, for union members in both countries the most commonly cited source of information about trade unions was “personal experience as a union member”. For non-members, the most common source of information about trade unions in both countries was the traditional media.

As Table 6 shows, 77 percent of German union members said that they “occasionally or frequently” read or heard about unions through their own experience as union members, as was the case for 68 percent of current Australian union members. However, unionists were only a minority of workers. Amongst all German employees, 38 percent answered “occasionally or frequently” to “through my experience with [other] union members”, while 29 percent of Australian employees gave this answer to “meeting or seeing other union members, delegates or officials at work”.

The fact that German union members give either response more often than their Australian counterparts (by margins of 11 to 14 percentage points) suggests the possibility that German unions are more active in the workplace than Australian unions. This in turn would point to a failure of Australian unionism to adequately achieve its aim of increasing workplace activity, something it has been seeking to do since the 1990s in response to union decline and after a long period where Australian unions were perceived to have focused on tribunal and political activity rather than workplace activity (Crosby 2005). The cross-national gap on other issues is much smaller amongst union members (mostly around 3 percentage points).

In reading the tables, it should also be noted that in Australia we asked about personal experience former or actual union members had, whereas for Germans we offered this option only to those who were union members at the time of the survey. This should be taken into account when reading

4 We merged the answers of both categories, because for each question only between six and twelve percent said that they would use the respective source of information frequently.

data for the countries in the last rows of tables 6 and 7 and means that really the only direct comparisons are in the 2nd and 5th cells of the last row of table 7, where direct comparisons between union members in both countries are made. All employees, however, were asked about the influence of “experience with [other] union members”.

Conversations with family, friends or acquaintances also play an important role; this “information channel” is also used more often by trade union members than non-members, though only slightly more often in Germany than Australia.

This union effect is also found in social media. Again, German employees make more frequent use of social media to hear about trade union issues. The gap is not large (7 percentage points), but it is larger than that for most other sources about trade unions (as mentioned, typically 3 percentage points), while slightly less than the cross-national gap shown in Table 5 about use of social media for political news (10 percentage points).

For non-members, in contrast to members, traditional media were the most frequent source of information about unions. Some 48 percent of Australian non-members, and 52 percent of German non-members, said they occasionally or frequently read or heard about unions through these media. The real gap would actually be a little slightly larger because of minor differences of wording: the German version specifically referred to “newspapers or magazines, television (not on the internet)”, while the Australian one said, “reading newspapers or magazines or online versions of them, watching television or listening to radio”.

Table 6: Frequency of use of sources of information about trade unions by country and trade union membership (in percent)

Country	Australia			Germany		
	Non-union member	Union member	Total	Non-union member	Union member	Total
How often have you read or heard about trade union issues in the last five years through... (occasionally/frequently)						
Reading newspapers or magazines or online versions of them, watching television or listening to radio	48	64	51	52	62	54
Talking with family, friends or acquaintances	35	56	40	40	58	43
School, university or college courses or other forms of organized education	21	33	23	24	36	26
Following links or headlines on social networks, for example Facebook, Twitter, Snapchat or Instagram	28	46	32	31	53	35
Meeting or seeing other union members, delegates or officials at work	20	62	29	30	76	38
Personal experience as a union member	24(a)	68	46(b)	(c)	77	(c)

Note: (a) as a percentage of former union members; (b) as a percentage of current and former union members; (c) question was not asked of non-members

Source: Online surveys conducted in 2020

Table 7 shows that younger Australians and Germans appeared more reliant than their older peers on information from school and university. In total, 19 percent of older German employees indicated learning about unions through school, university or vocational training “occasionally or frequently” over the past five years, and this was the case for 40 percent of young Germans under 30. Similar proportions were found for Australians; 19 percent of all older respondents, and 40 percent of young respondents, indicated they read or heard about unions over the previous five years

through school or university. Young people also talked more about unions with friends and family than did older employees.

As would be expected from Table 4, young workers also relied more than older workers on social media for information about unions. In both countries, it was a more important source for young employees than school and university, though less important than traditional media and talking with family or friends.

Table 7: Frequency of use of sources of information about trade unions by country and age (in percent)

Country	Australia			Germany		
	Under 30	30 and older	Total	Under 30	30 and older	Total
How often have you read or heard about trade union issues in the last five years through... (occasionally/frequently)						
Reading newspapers or magazines or online versions of them, watching television or listening to radio	49	52	51	48	57	54
Talking with family, friends or acquaintances	49	37	40	50	43	44
School, university or college courses or other forms of organized education	40	19	23	40	19	26
Following links or headlines on social networks, for example Facebook, Twitter, Snapchat or Instagram	45	29	32	43	31	35
Meeting or seeing other union members, delegates or officials at work	33	28	29	38	38	38
Personal experience as a union member (the question refers to trade union members only)	52(a)	45(a)	46(a)	79(b)	77(b)	77(b)

Note: (a) as a percentage of current and former union members; (b) as a percentage of current union members

Source: Online surveys conducted in 2020

What is the most important source of information? Tables 8 and 9 show answers to this question when we asked it in relation to the options shown

in the previous two tables. Here respondents identified their most important source of information about trade unions.

In Table 8 we see that for union members, either their experience as a member, or watching or seeing other members, delegates or officials of work, is cited by a majority as the single most important source. Still, for significant minorities even of union members, other external sources are the most important source.

For non-union members, traditional media tends to be the most important source of information for both Australian and German respondents. The second most important source for non-members was talking with family or friends. Social media was less important in both countries.

Table 8: Most important source of information about trade unions by country and trade union membership (in percent)

Country	Australia			Germany		
	Non-union member	Union member	Total	Non-union member	Union member	Total
Main source of knowledge about trade union issues (only one selection)						
Newspapers, magazines, television or online	46	16	40	36	14	32
Talking with family, friends or acquaintances	21	10	19	21	15	20
School, university, college, courses or other form of organized education	4	5	4	12	7	11
Social networks on the internet, for example Facebook, Twitter, Snapchat or Instagram	11	8	10	15	13	15
Meeting or seeing other union members, delegates or officials at work	12	29	16	15	28	17
Personal experience as a union member	6	31	11	(a)	23	4(a)

Note: (a) In Germany, the question was asked of current union members only; in Australia it was also asked of former union members.

Source: Online surveys conducted in 2020

Taken together, in both countries, the most important external source (other than people's own experience) was the traditional media of news-

papers, magazines, radio and television. Only 10 percent in Australia and 15 percent in Germany stated that *social media* like Facebook or similar types of media were their main source of information about trade unions. Conversations with family and friends were more important sources than social media. Social media were the most important source of information for 10 percent in Australia and 15 percent of the respondents in Germany.

Table 9 shows that, in Germany, age differences regarding the reliance on social media for information about unions were small. In Australia, however, younger respondents appeared to rely more on social media than older respondents for information about unions. Because union density is low among younger workers and social media usage is high, social media were a more important source of information about unions for young employees than personal experience.

However, even amongst the young, social media were less important as a source of information about trade unions than were traditional media, or even talking with family and friends. In Germany, social media were also less important as a source of union information for young people than school or university, but the reverse was the case in Australia, where school and university had barely half the role that they had in Germany.

Table 9: Most important source of information about trade unions by country and age (in percent)

Country	Australia			Germany		
	Under 30	30 and older	Total	Under 30	30 and older	Total
Main source of knowledge about trade union issues (only one selection)						
Newspapers, magazines, television or online	31	43	40	25	36	32
Talking with family, friends or acquaintances	26	17	19	20	20	20
School, university, college, courses or other form of organized education	11	3	4	21	6	11
Social networks on the internet, for example Facebook, Twitter, Snapchat or Instagram	18	8	10	17	14	15
Meeting or seeing other union members, delegates or officials at work	11	17	16	12	20	17
Personal experience as a union member (a)	3(a)	13(a)	11(a)	4(b)	5(b)	4(b)

Note: (a) in Australia, asked of both current and former union members; (b) in Germany, asked only of current union members

Source: Online surveys conducted in 2020

4.4 Social media effects on union attitudes

We now look at whether differences in media use are linked to differences in attitudes. We examine the influence of two different types of media use reported already above, as well as several other information sources. First, we consider the link between attitudes and general political media use and sources. Then we consider the link between attitudes and the source of information specifically about unions.

Relationship of attitudes to sources for general or political information

We examine the relationship of media frequency to union attitudes, by use of a series of dichotomous variables, in which the use of a particular source

“at least once a day” is scored as 1, and less than that is scored as 0. The correlations (Pearson’s r) are shown for both countries in Table 10. The first row of each cell contains the correlations for all workers. In the second row, partial correlations are shown where we control for age and union membership. This means that we see the correlation between media use and attitudes adjusted for the effects of age and union membership. The latter approach also negates any potential distortion that could be caused by the sample in either country being non-representative by age or union membership.

The patterns are quite similar between the two countries. Several points can be made. First, the effects of media use are by and large positive. (On the question of whether strong unions are bad, some of the correlations are negative, but hardly different from zero.)

Second, the correlations are rather weak. The correlations between media use and the Union Attitude Index (UAI), for instance, range between $r = .03$ and $r = .13$. (As we are using correlations here, the UAI is expressed in its original form, as an index from 0 to 4, rather than as a dichotomous variable.) The differences between the two countries are small.

Third, we see in the last two rows that an overall high level of information use also has a positive effect on union attitudes. Again, this is true for both countries.

Fourth, the media effect is largely independent of age and union membership. There are only minor differences between the non-partial and partial correlations. (We measured age here differently from previous tables, as we treat age as a continuous variable, expressed in years, in order to maximise the information used. However, we tested the robustness of this approach by substituting previous dummy coding of young versus old. The results were not influenced by the coding.)

Broadly speaking, the more information respondents obtained through social or traditional media, and also through conversations with friends and family, the more positive were their trade union attitudes. The pattern for young employees was similar. The link between more positive attitudes and greater media usage is observable, in Australia, for all measures of union attitudes and, in Germany, for all measures except the statement on whether strong unions are bad for the economy.

For Germany, the correlation between high general use of social media and the agreement that workers need strong trade unions to protect their rights was $r = .10$. This correlation holds if we control for age and union membership. The correlation between reading or watching political content on social networks at least once a day and the “workers need strong unions” statement was $r = .11$ and $.10$ after including our control variables.

We find the same correlations between our index of political sources and the Union Attitude Index.

For Australia (also in Table 10), the patterns were similar in direction. High general use of media shows a positive correlation with attitudes towards trade unions. For instance, the correlation between the index of information usage intensity and the UAI is $r = .12$ and with the score of union positivity the correlation is $r = .15$. (The partial correlations are $.09$ and $.13$ after controlling for age and union membership.) The correlations between media use and the “unions are bad” statement are very low.⁵

Importantly, the differences between the non-partial and partial correlations are very small. This means that we can conclude that media effects are largely independent of age and union membership. The observed pattern of correlations supports this conclusion, although some of the media effects on union attitude are not very strong.

⁵ It seems that negatively formulated items are not the best way to avoid response bias, because they cause “respondent inattention and confusion” (van Sonderen/Sanderman/Coyne 2013).

Table 10: Full and partial correlations between frequency of media use and union attitudes, Australia and Germany

Frequency of media use (at least once a day = 1) In the cells: correlations (Pearson's r); 1. row: non-partial correlations for all workers; 2. row: partial correlation, controlling for age and union membership		Union Attitudes									
		Workers need strong TUs (disagree =1 to agree = 5)		Strong TUs are bad for Germany's economy (agree =1 to disagree = 5)		I would rather be in a union than not in one (disagree =1 to agree = 5)		Union Attitude Index (UAI)		Positive association (positive = 1)	
		AU	DE	AU	DE	AU	DE	AU	DE	AU	DE
Read or watch the political news or political content in a newspaper, magazine, television or an online version of any of them	S	.11	.13	.05	.04	.07	.08	.09	.11	.13	.06
	P	.10	.13	.04	.03	.08	.08	.09	.11	.13	.06
Read or watch political news or political content in an online source that is only available on the internet	S	.07	.11	.03	.03	.08	.12	.07	.09	.10	.08
	P	.06	.11	.02	-.03	.06	.11	.05	.09	.09	.08
Talk with friends or acquaintances about politics	S	.05	.10	.01	-.01	.09	.14	.06	.11	.08	.08
	P	.02	.09	-.01	-.01	.06	.13	.03	.10	.06	.07
Read or watch political content on the social networks on your phone or the internet (for example, Facebook, Twitter, Snapchat or Instagram)	S	.11	.11	.04	-.01	.12	.19	.11	.13	.13	.11
	P	.09	.10	.03	-.00	.09	.15	.09	.12	.11	.08
Use, for any purpose, social networks on your phone or the internet (for example, Facebook, Twitter, Snapchat or Instagram)	S	.10	.09	.08	-.02	.09	.16	.11	.11	.13	.10
	P	.10	.09	.08	-.02	.09	.13	.11	.10	.13	.07
Index of political sources (scale from 0 to 4)	S	.11	.16	.05	-.00	.13	.19	.12	.16	.15	.11
	P	.09	.15	.03	-.00	.10	.17	.09	.14	.13	.10

Note: S = simple correlation; P = partial correlation (after controlling for age and union membership); AU = Australia; DE = Germany
 Source: Online surveys conducted in 2020

Relationship of attitudes to sources for information about trade unions

Our previous findings show quite clearly that the frequency of seeking information – regardless of the type of medium – correlates positively with attitudes towards trade unions. However, we also want to know whether attitudes are dependent on sources of information that the respondents use to inform themselves specifically about trade unions (Table 11).

The following analyses make use of answers to the question: “How often have you read or heard about trade union issues in the last five years through ...” (never/rarely = 0, occasionally/frequently = 1). For that question, multiple responses are possible. (Here we again use the already familiar dummy coding with occasionally/frequently = 1, otherwise 0). For our second question (Table 12), the respondent has to decide which was the most important medium through which they received information, so only one answer is possible.

Let us first look at Table 11 and take as an example the row with the correlations between the frequency of information about trade unions via social media and attitudes towards trade unions. We see a positive correlation between information frequency and UAI as well as the positivity measure (of responses to the first free word association) for both countries. For Australia, the simple correlation with both attitudinal variables is $r = .17$, and after controlling for age and union membership, $r = .10$ and $.12$ respectively.

For Germany, we find weaker simple and partial correlations. Overall, the union membership effect plays a role in both countries in addition to the influence of age, as the partial correlations are considerably lower than the non-partial ones. Nevertheless, we again see the pattern whereby more or more frequent information, through any channel, is associated with stronger positive attitudes.

For table 12, we look at the effect on union attitudes of the *most important* information source about unions. To limit the size and detail of the table, we focus on two specific attitudes towards trade unions: first, the question “Workers need strong trade unions to protect their interests” (% agree), and second, the rating of the first association on the stimulus word “trade union” (positive = 1). The percentages in the cells of Table 12 thus express the proportion of those who agree that workers need strong unions or show a positive association. Higher values therefore express a stronger pro-union attitude.

Table 11 – Correlations between frequency of information about trade unions and trade union attitudes, Australia and Germany

How often have you read or heard about trade union issues in the last five years through... (occasionally/frequently =1, otherwise = 0)		Union Attitudes									
		Workers need strong TUs (disagree =1 to agree = 5)		Strong TUs are bad for Germany's economy (agree =1 to disagree = 5)		I would rather be in a union than not in one (disagree =1 to agree = 5)		Union Attitude Index (UAI)		Positive association (positive = 1)	
		AU	DE	AU	DE	AU	DE	AU	DE	AU	DE
Newspapers, magazines, television or online	S	.07	.10	-.01	-.00	.11	.13	.07	.10	.12	.07
	P	.04	.08	-.04	-.02	.07	.12	.03	.08	.10	.07
Talking with family, friends or acquaintances	S	.11	.13	.05	.02	.18	.20	.14	.16	.16	.15
	P	.05	.10	.01	.00	.11	.14	.07	.11	.12	.11
School, university, college, courses or other form of organized education	S	.10	.05	.00	-.12	.16	.16	.11	.05	.12	.15
	P	.05	.03	-.02	-.12	.08	.10	.05	.01	.08	.12
Social networks on the internet, for example Facebook, Twitter, Snapchat or Instagram	S	.14	.08	.05	-.03	.21	.21	.17	.12	.17	.09
	P	.09	.04	.01	-.05	.14	.14	.10	.06	.12	.04
Meeting or seeing other union members, delegates or officials at work	S	.15	.13	.06	.04	.22	.21	.18	.17	.17	.19
	P	.04	.04	-.03	-.02	.07	.07	.03	.04	.06	.12
		.04	.04	-.03	-.02	.07	.07	.03	.04	.06	.12

Note: S = simple correlation; P = partial correlation (after controlling for age and union membership); AU = Australia; DE = Germany

Source: Online surveys conducted in 2020

Table 12: Most important source of information about trade unions and trade union attitudes by country and age (in percent)

	Workers need strong trade unions to protect their interests (agree)						Positive association for first word (positive = 1)					
	AU			DE			AU			DE		
	under 30	30 and older	all	under 30	30 and older	all	under 30	30 and older	all	under 30	30 and older	all
Newspapers, magazines, television or online	59	47	49	74	66	68	48	30	33	58	43	47
Talking with family, friends or acquaintances	56	46	49	64	68	67	52	34	39	54	48	50
School, university, college, courses or other form of organized education	60	51	56	73	48	64	56	33	45	59	35	50
Social networks on the internet, for example Facebook, Twitter, Snapchat or Instagram	60	62	61	60	68	65	48	55	52	48	43	45
Meeting or seeing other union members, delegates or officials at work	65	67	67	70	74	73	48	50	50	65	55	57
Own personal experience as a union member	58	70	70	93	91	91	75	58	59	64	84	78

Note: AU = Australia; DE = Germany

Source: Online surveys conducted in 2020

Let us first look at the percentages of those who agree that workers need strong unions. (Again, note that the last row has a more restricted population than other rows). We see that among Australian respondents, 61 percent of those who say that social media are the most important source of information agree with the statement (that is, give a pro-union response) and this is the case for only 49 percent of those for whom traditional media is the most important. However, these differences are not evident for Germany, where the corresponding proportions are 65 percent for social media as the most important source and 68 percent for those who use traditional media primarily.

We find a similar pattern in our second attitude item, the proportion of those with a positive association with trade unions. For those for whom social media is the most important source, the proportion with positive associations is 52 percent among Australian respondents, higher than the proportion among those who rely on traditional media (33 percent). Again, we do not find such differences for Germany.

Once again, we find that an individual's own experiences as a trade union member, but also their experiences with the trade union independent of one's own membership, have the strongest positive effect.

Table 13 presents data that, like table 12, looks at the main source of union-related information, but concentrates just on the union propensity question. It shows the proportions of respondents with positive union propensity (that is, they agree with the statement "If I were totally free to choose, I would rather be in a union than not in one") and with negative union propensity (they disagree with the statement). It shows that the most positive union propensity is shown by people who cite direct experience, or meeting or seeing other members, delegates or officials, as their main source of union-related information.

The most negative union propensity is shown by people for whom the traditional media are their main source of union-related information. In other words, in both countries the most common source of information about unions is also the one associated with the most negative attitudes. This may seem slightly surprising in light of the small positive correlation between use of traditional media and pro-union attitudes. However, this question was not about how much respondents used traditional media but whether they used it more than any other source. A person with low use of traditional media may still get more information about unions from there than anywhere else, especially if they are not politically engaged.

By contrast, those whose main source of information about unions is social media have fairly typical union propensities (in fact, just slightly above average in both countries). Their attitudes are no more negative, and possibly slightly more positive, than those whose main source is talking with family or friends, and considerably more positive than those whose main source was traditional media.

Table 13: Most important source of information about trade unions by country and union propensity (in percent)

Country	Australia		Germany	
	Positive	Negative	Positive	Negative
Main source of knowledge about trade union issues (only one selection)				
Newspapers, magazines, television or online	27	37	24	33
Talking with family, friends or acquaintances	36	26	32	30
School, university, college, courses or other form of organized education	46	16	29	31
Social networks on the internet, for example Facebook, Twitter, Snapchat or Instagram	39	33	33	25
Meeting or seeing other union members, delegates or officials at work	48	25	37	26
Personal experience as a union member	55(a)	24(a)	80(b)	7(b)

Note: (a) asked of current and former union members; (b) asked of current union members

Source: Online surveys conducted in 2020

We would like to highlight two results: First, the findings provide some evidence for the hypothesis that in Australia the use of traditional media – i.e., newspapers, whether printed or online, and radio and television – have a negative effect on attitudes towards trade unions. (However, as the data are cross-sectional surveys, we cannot make an uncontested conclusion of causality.) As mentioned, there are differences in the media landscape between Australia and Germany. Traditional media in Australia paint a much less positive picture of trade unions than is the case in Germany (Small 2021; Muller 2021).

A second finding is the positive influence of personal experience with trade unions. We will come back to this in the final section of this report, because actively bringing workers in personal contact with trade unions can

be an important measure for promoting positive attitudes and perhaps increasing membership.

The combined effects of forms of media usage

In this section we consider what happens when people obtain their information from one, both or neither of traditional and social media. The effect of looking at this is that we created a typology of how information about trade unions is obtained, based on whether they get their information about trade unions through more traditional media or through social media or both.

This makes use of the question that we asked: “Over the last five years, how much have you heard about or encountered trade union issues in *each* of the following?” with the sub-questions specifying “reading newspapers or magazines or online versions of them”, “watching television or listening to radio”, “talking with family, friends or acquaintances”, “going to school, university or college courses or other forms of organized education”, “following links or headlines on social networks, for example Facebook, Twitter, Snapchat or Instagram”, “meeting or seeing other union members, delegates or officials at work” and “your own personal experience as a union member”. (We excluded the last option if respondents have previously answered that they have had never been a union member). The scale for each option was: frequently – occasionally – rarely – never.

For this purpose, we were interested in the combination of traditional media and social media as more or less frequently used channels of information about trade unions. That means, someone can get more or less information through none, one or both forms of media, as shown in Table 14.

Table 14: Combinations of usage of traditional and social media as sources of information about trade unions

Use of traditional media	Use of social media	Type of information usage about trade unions	N	Percentage
Never/Rarely	Never/Rarely	No or rare information via either media	1,325	41%
Never/Rarely	Occasionally/Frequently	Some via social media	229	7%
Occasionally/Frequently	Never/Rarely	Some via traditional media	840	26%
Occasionally/Frequently	Occasionally/Frequently	Via both forms of media	841	26%
Total			3,235	100%

Source: Online surveys conducted in 2020

Some 41 percent of all respondents had not heard or read about trade unions through social media nor traditional media in the last five years (to be more precise: they never or rarely heard or read something by these media). However, 26 percent have at least occasionally heard/read about trade unions through both channels. Only traditional media is the dominant information channel for 26 percent and only social media for seven percent. Of course, this typology says nothing about the other information channels such as conversations with family or friends, institutionalised education or experiences with trade unions.

As shown in Table 15 the attitudinal differences between the types (and also between the age groups) are not very pronounced. Nevertheless, the differences seem to be due more to the frequency of information than to how someone gets their information. This is at least the case for the combinations of the two forms of information channels selected here. And also, again we did not observe a negative effect of social media usage, on the contrary: the dominant pattern more or less is, that we see a positive social media effect in nearly all subgroups.

For instance, in Australia (where respondents say social media dominates as their source of information) 64 percent agree with the statement, that workers need strong unions whereas (when both forms are at least occasionally used) 66 percent agree with the statement, that workers need strong unions. Whilst information about trade unions is rare compared with “traditional media dominates” the respective percentages are 49 and 55 percent agreeing that workers need strong unions.

Table 15: Combinations of information sources on about trade unions and trade union attitudes, by country and age (in percent)

	Distribution	Workers need strong trade unions to protect their interests (agree)						Positive association for first word (positive)					
		AU			DE			AU			DE		
		Y	O	All	Y	O	All	Y	O	All	Y	O	All
No or rare information via either media	41	51	49	49	62	61	61	45	32	34	51	41	45
Some via social media	7	59	68	64	66	72	69	48	47	47	57	57	57
Some via traditional media	26	59	54	55	81	72	74	49	38	40	66	47	52
Via both forms of media	26	69	64	66	73	73	73	51	40	42	57	48	51

Note: Y = younger (under 30); O = older (30 or older); AU = Australia, DE = Germany; N=3,235

Source: Online surveys conducted in 2020

4.5 Union attitudes and reliance on the internet

We investigated the relationship between internet reliance and union attitudes through three questions that assessed how disruptive it would be to respondents if they did not have internet access for a week. We asked about its impact on each of three aspects of their lives on a scale ranging up to ten on each of those aspects.

Table 16 shows the correlations between the internet reliance items and the attitude items. The first row (S) shows the simple correlations, the second row (P) the partial correlations. For the partial correlations, we control for the two variables age and union membership.

The general pattern we observed was that greater reliance on the internet was associated with either no effect, or a (very small) positive correlation with trade union attitudes. When we control for age and union membership, this hardly changes these correlations.

The pattern was fairly similar between the two countries, bearing in mind that the negative correlations between the reliance items and one attitude question for Germany are very weak. It should also be noted that we have not controlled for other variables.

Table 16 – Relationship between union attitudes and internet reliance

Panel A: Germany

		Workers need strong TUs (disagree = 1 to agree = 5)	Strong TUs are bad for Germany's economy (agree = 1 to disagree = 5)	I would rather be in a union than not in one (disagree = 1 to agree = 5)	Union Attitude Index (UAI)	Positive association for first word (positive = 1)
For knowledge of news and current affairs	S	.06	-.03	.04	.03	.09
	P	.06	-.02	.03	.03	.07
For ability to keep myself entertained in my spare time	S	.04	-.02	.08	.05	.06
	P	.05	-.01	.07	.05	.04
For my awareness of what's going on in my social circles	S	.02	-.07	.04	.00	.02
	P	.03	-.06	.02	-.00	-.00

Panel B: Australia

For knowledge of news and current affairs	S	.08	.01	.06	.06	.06
	P	.07	.01	.04	.05	.05
For ability to keep myself entertained in my spare time	S	.07	.00	.08	.06	.07
	P	.07	.01	.07	.06	.06
For my awareness of what's going on in my social circles	S	.11	.03	.12	.11	.09
	P	.11	.04	.11	.10	.08

S = simple correlation; P = partial correlation (after controlling for age and union membership)

Source: Online surveys conducted in 2020

Overall, it could be said that there are no consistent differences in their extent of pro-union attitudes between those who have high and those who have low reliance on the internet. But it should also be noted that the previous tables and charts indicate that younger workers had pretty similar patterns to the all-aged employee sample, all of which showed a positive or benign effect of youth and social media usage on union attitudes. There is nothing in the above data to indicate an opposite tendency amongst young workers on the internet reliance issue.

4.6 Summarizing the results of bivariate analyses

We hesitate to say that high social media use in itself enhances pro-union attitudes, because the pattern of high reliance being associated with pro-unionism is also evident in other types of media. In both countries, people who obtain political news or political content at least once a day are more pro-union than those who obtain it less often. Specifically, those who obtain political news at least once a day from a newspaper, magazine or television are more pro-union than those who obtain it less often.

However, even talking with friends and acquaintances about politics is associated with pro-union attitudes in both countries. And, again, these patterns are quite similar amongst young and older workers. It appears that greater engagement with political issues throughout is associated with people being more pro-union – or to look at it another way, anti-union attitudes are fed by ignorance and isolation. That is not to say that anti-union attitudes rely on ignorance or isolation, simply that they are enhanced by it.

This understanding, however, does not explain why heavier use of social media for any purpose (not just political information) appears linked to more pro-union attitudes by a fairly similar margin. We should recognize that some respondents' understanding of "political" issues may be narrower than others'. Information that they receive through social media may have implications for their understanding of work and unionism issues without being labelled "political".

In addition, the effects of social media may vary substantially between issues. On matters where the issues have been long rehearsed over many decades, social media may just be circulating information that corresponds with one or more ideas from the past. But on new matters, where information is scarcer and knowledge generally lower, ideas on social media might be untested against the prior knowledge of respondents.

Thus, conspiracy theories about Covid-19, 5G phone networks and vaccinations may circulate and gain credence through social media in ways that comparable memes about unionism could not (for example, long held beliefs about unions being part of a communist takeover). We do not test attitudes to other issues in this survey but the results here contrast to studies of the role of social media in promoting conspiracy theories on Covid-19 and comparable issues reported from other sources (Duffy/Allington 2020).

4.7 Multivariate analysis

The evidence so far is that age and union membership have an impact on media use and that attitudes towards unions are influenced by these variables. However, it is useful to rule out the possibility that the seemingly positive influence (or at least, the apparent absence of a negative influence) of media usage on union attitudes is not due to confounding factors such as political orientation, income, work attitudes or occupation. Hence, we now control for the influence of other variables, that is, we “adjust”, for example, the effect of media use for that of age and vice versa. For this purpose, we conduct regression analyses.

We use two *dependent variables*: the Union Attitude Index (UAI) and the positivity measure, which measures whether the first association named by the respondent is rated as positive or not. For the first variable we use OLS regressions, for the second binary logistic regressions.

We include the following *independent variables* in the regressions:

- Media use – We create several dummy variables to capture the frequency with which respondents said they had heard about or encountered issues about trade unions in the last five years through particular sources. *Traditional media* measured how frequently they had done this through “reading newspapers or magazines or online versions of them, watching television or listening to radio”. *Social media* measured how frequently they did this through “social networks on the internet, for example Facebook, Twitter, Snapchat or Instagram”. The options were: frequently; occasionally; rarely; or never. If the response was frequently or occasionally it was coded as 1, if it was rarely or never it was coded as 0.
- Internet reliance – The variable *internet reliance* was the average of the three questions asked, with the introduction “If you had no way of accessing the internet for one week, how disruptive would that be to each of the following things?”. The three items asked respondents about the impact on “your knowledge of news and current affairs”, “your

ability to keep yourself entertained in your spare time”, and “your awareness of what’s going on in your social circles”. This three-item index had an acceptable Cronbach’s alpha of 0.79.

- Age – The variable *young* was coded as younger than 30 years =1, 30 years and older = 0.
- Trade union membership – The variable *union member* took the value 1 if the respondent was currently a member of a union, and 0 otherwise).
- Occupation – We used a series of occupation variables capturing the occupational group of the respondent. These were *manager* (for example: banker, executive in big business, high government official, union secretary), *professional*, which covered both professionals and associate professionals (for example: doctor, teacher, engineer, accountant, nurse, actor, power plant operator, draughtsperson, imaging technician, ambulance worker, photographer, athlete), *clerical* (for example: secretary, clerk, office manager, bookkeeper); *service* (for example: police officer, waiter, barber, caretaker); *commercial* (for example: sales manager, shop owner, shop assistant, insurance agent); *trades* (for example: foreman, motor mechanic, printer, seamstress, electrician, baker); *semi-skilled* (which covered both plant or machine operators or assemblers as well as skilled agricultural, forestry or fishery workers, for example: bricklayer, bus driver, cannery worker, miner, sewing machine operator, market gardener, apiarist, dairy producer); and *other*, which covered elementary occupations, the armed forces and others (for example: labourer, porter, unskilled factory worker, farm labourer, armed forces occupation, and others). In the equations, *commercial* was used as the default category.
- Income – Another important aspect of social status is measured through the variable *gross income*. We, in effect, test whether, for those with higher incomes, trade unions have less importance and are also perceived as less positive. We capture income via an ordinal or rank-order variable. In both countries we captured income across nine categories, with 9 reflecting a higher income and 1 the lowest category. For Germany, we had to take into account in the calculation that we offered respondents the option of giving their information for gross or net income in order to facilitate the response and increase reliability. We converted the gross income levies into net income by assuming a 33 percent deduction on gross income and using the mid points of the respective income class (for example. for the class 20,000 to 29,999 the value 25,000; for the highest category 150,000 and more the value 200,000). Our variable construction thus takes into account the relative position in the salary level of the respective country.

- Political orientation – We expect that general or broader political attitudes also influence or at least correspond with more specific attitudes towards trade unions. We expect a positive effect of a “left” and a negative effect of a “right” political attitude. We capture these attitudes via a left-right scale. And asked the question “In politics, people sometimes talk about the “left” and the “right”. Where would you place yourself on a scale from 0 to 10, where 0 means the left and 10 means the right?”. The variable *political scale* indicates the respondents self-assessed score on that question.
- Attitude towards work – Attitudes about the importance of work in relation to other areas of life might also correspond with attitudes towards trade unions, and this is measured through the variable *work centrality*. We test whether, if work is very important in life, attitudes towards trade unions will be more or less positive. We use questions adapted from the Work Centrality Index (Paullay/Alliger/Stone-Romero, 1994): “The most important things that happen in my life involve work”, “Work is only a small part of my life” and “My personal life goals are mostly about work” (1 = strongly disagree, ..., 5 = strongly agree). We combine them into an additive index (reversed coding for the second item). A factor analysis shows that the values of all variables load on one factor, while the reliability is acceptable as measured by Cronbach’s Alpha = .68.

We undertook separate regression analyses for each country. For the dependent variable Union Attitude Index (UAI) we use the ordinary least squares (OLS) method, for the Union Positivity Measure (UPM) we binary logistic regressions. In the OLS regressions we show the coefficients and the standard errors, but as the coefficients have no simple interpretation in logistic regression, we show the odds ratios in the table, along with the significance values. Odds ratios are the change in the ratio of the estimated probability of something occurring (in this case, being positive about unions) to the estimated probability of it not occurring (being neutral or negative about unions), with a one unit increase in the independent variable.

Since we gave respondents the option not to answer some questions, such as the left-right scale, the number of cases in the following analyses is somewhat smaller than in most previous analyses.

Results

The results are shown in Table 17 (OLS regressions on the UAI) and table 18 (logistic regressions on the union positivity measure). Equations 1 and 3 relate to Australia, equations 2 and 4 to Germany.

In all four equations, heavier use of social media to find out information about trade unions was associated with more *positive attitudes about trade unions*, in both countries and by both measures. By contrast, heavier use of traditional media usually had no significant relationship with trade union attitudes. The one exception to that pattern was in Australia, where there was a weak significant positive link between traditional media use and the union positivity measure (equation 3, table 18), but there was no link between such usage and the other indicator of union attitudes (equation 1, table 17), after controlling for other variables.

Internet reliance was associated with more positive attitudes towards unions in equations 1, 3 and 4, but not in equation 2, which concerned the prediction of the UAI in Germany.

Younger workers (those aged under 30) were more likely to score highly on the positivity measure in both countries (equations 3 and 4), and the odds ratios were fairly similar in both countries. In Australia young workers were also significantly more likely to score highly on the union attitudes index, but in Germany the coefficient, at only about half that for Australian young workers, was not large enough to be significant.

The major control variables behaved as expected. In all regressions, for both dependent variables and for both countries, there was a clear positive influence of union membership on attitudes towards unions. Similarly, the effect of a “left” political attitude was also clear. Higher income tended to be associated with a less positive union attitude: this was evident to a similar degree in both countries on the UAI, but on the union positivity measure it was only significant in Australia.

Work centrality, on the other hand, had virtually no influence in Australia. In Germany, there was a negative link to the UAI, but this was not matched on the union positivity measure, where the effect was minimal.

Occupation had an impact in both countries, though in different ways. As would be expected, managers tended to be more negative about unions than the default category, but this was only significant in Germany on the UAI, and on both measures the effect was smaller in Australia. “Semi-skilled” occupations were more pro-union in Australia on the UAI, but the effect was not significant in any other equations. Some other occupations were also significant in some equations, but not consistently so. Most starkly, trades (craft) occupations were, on the union positivity measure, the most pro-union in Germany but the most anti-union in Australia, after

controlling for other factors. The signs were retained, but significance was not, on the UAI.

Table 17: Determinants of Union Attitude Index (OLS regression)

	1 Australia	2 Germany
Constant	3.439*** (0.107)	3.732*** (0.138)
Traditional media	0.007 (0.044)	0.082 (0.053)
Social media	0.207*** (0.047)	0.151*** (0.056)
Under 30	0.115* (0.051)	0.055 (0.055)
Political scale	-0.103*** (0.009)	-0.052*** (0.013)
Union member	0.773*** (0.050)	0.733*** (0.064)
Gross income	-0.151*** (0.050)	-0.146*** (0.058)
Work centrality	0.01 (0.025)	-0.068* (0.032)
Internet reliance	0.031*** (0.008)	0.004 (0.010)
Professional	-0.006 (0.076)	0.101 (0.105)
Clerical	-0.048 (0.080)	-0.041 (0.092)
Service	0.181# (0.095)	-0.07 (0.106)
Management	-0.027 (0.089)	-0.321*** (0.120)
Trades	-0.209 (0.130)	0.029 (0.110)
Semi-skilled	0.271* (0.137)	0.252 (0.169)
Other	-0.022 (0.098)	0.005 (0.110)
N	1671	774
F	33.362	14.394
F significance	.000	.000
R ²	.232	.222
R ² adjusted	.225	.206

Note: Cells show coefficients (and, in brackets, standard errors). *** significant at 0.1 % level; ** significant at 1 % level; * significant at 5 % level; # significant at 10 % level

Source: Online surveys conducted in 2020

Table 18: Determinants of union positivity (logistic regression)

	3 Australia	4 Germany
Constant	0.910 (0.746)	0.058# (0.058)
Traditional media	1.251# (0.061)	1.159 (0.367)
Social media	1.564*** (0.000)	1.418* (0.045)
Under 30	1.641*** (0.000)	1.544* (0.011)
Political scale	0.806*** (0.000)	0.930# (0.080)
Union member	4.447*** (0.000)	4.249*** (0.000)
Gross income	0.701** (0.011)	0.889 (0.516)
Work centrality	1.002 (0.976)	0.968 (0.743)
Internet reliance	1.073*** (0.002)	1.06*** (0.049)
Professional	0.998 (0.992)	2.103* (0.023)
Clerical	0.771 (0.229)	2.09* (0.010)
Service	1.193 (0.495)	1.113 (0.745)
Management	0.845 (0.490)	0.910 (0.804)
Trades	0.474* (0.043)	2.125* (0.028)
Semi-skilled	1.550 (0.243)	1.656 (0.331)
Other	0.898 (0.685)	1.305 (0.430)
N	1671	774
Nagelkerkes r ²	.211	.156
-2 log likelihood	2008.502	974.927

Note: Cells show odds ratios (and, in brackets, significance or probabilities). *** significant at 0.1 % level; ** significant at 1 % level; * significant at 5 % level; # significant at 10 % level

Source: Online surveys conducted in 2020

Robustness checks

We have conducted two types of robustness checks. We proceeded as follows: First, we included media or information variables beyond our typology. This means that we have included the frequency of use of other sources of information about trade unions. This seemed to make sense to us because in principle, for example, someone might have received information about trade unions exclusively or primarily through talking to other people. In addition, we included variables on the frequency of using different kinds of media for political (and general) information.

Second, we conducted a kind of robustness check for those variables that show particularly strong effects. That is, we estimated regressions including only the variables age, political attitude and trade union membership. (We also used an alternative measure of political attitude comparing “left” and “right” versus “centre”.) While we only present the results in text here, the results can be requested from the authors.

These different regressions show that the main effect coefficients are robust to different model specifications. Moreover, the variables age, political attitude and especially union membership explain a large part of the variance, much more than the other variables.

Discussion

If we put the effect coefficients and their statistical relevance in the background and include more theoretical considerations, we consider the following interpretation to be plausible and empirically supported: Socialisation, which surely differs between trade union members and non-unionised workers, and social status (measured in particular by income) influences general political values and also information behaviour. Values together with information behaviour make differences in the attitudes towards trade unions. In the complex structure of the variables’ causal relationships, trade union membership stands out above all in importance but also a political “left-wing” position is significant. The results for work centrality are more surprising, albeit very inconclusive, and warrant further investigation.

The effects of occupation on attitudes may seem surprisingly small, particularly when compared to the obvious occupational variation in union density. Within our dataset, there was quite a bit more inter-occupational variation in union density than in union attitudes. For example, in Germany the two largest occupational groups in our dataset – office workers and scientific and professional staff – had union densities of 12 percent and

22 percent respectively, with one almost twice as much as the other, but they gave scores on the union positivity measure of 54 and 57 percent respectively.

In the two largest occupations in Australia – professionals and office workers – density was 24 percent and 10 percent respectively, but union positivity 42 percent and 37 percent. Variations in union density between occupations have less to do with attitudes than they have to do with differences in such things as workplace size, employer resistance, union organizing capacity, and other factors.

One important finding worth repeating here: *The use of social media does not have a negative effect on whether people view trade unions more or less positively. Likewise, heavy internet usage does not appear to have negative effects on attitudes to unions.* In general, the more information people seek and receive about political issues in general and about trade unions, the more positive their attitude towards trade unions. Increased use of social media for trade union information campaigns should, if anything, have a positive effect on attitudes. If there is an effect, though, it would not be strong.

The strongest effect comes from proximity, from close contact with trade unions, be it through one's own membership, be it through contacts with other trade union members, and corresponding information. But this already brings us to the conclusions and political-practical considerations that we will deal with in the following final chapter.

5. Conclusions

The attitudes of younger workers to unions are, if anything, more positive than those of their older counterparts. This is in stark contrast to membership data, which consistently show lower union membership amongst young workers, something also shown in the survey data in this study. This pattern is not unique to our study. There are several other studies that show equally positive, or more positive, attitudes amongst younger workers than amongst older workers, despite lower union density among younger workers in most countries (Fiorito et al. 2021; Freeman et al. 2007). The explanation for lower density might lie in the higher costs of less secure work, high union membership costs, difficulty in accessing unions or greater opposition from employers in their workplaces.

Not surprisingly, social media were more heavily used by young employees than older employees. There were also some cross-national differences. Social media usage was higher among young employees in Australia than in Germany. Usage of other mechanisms for political purposes was not so different in Germany.

On the key issue of whether social media or internet reliance can be blamed for the decline of unionism, or even negative attitudes towards unionism, we must come down on the side of the negative. Social media and the internet are not the enemy for unions. At worst, it could be said that there are no significant differences between workers heavily reliant on social media and those lightly reliant on social media in terms of their attitudes to unions. Likewise, at worst, it could be said that there are no significant differences between workers heavily reliant on the internet and those lightly reliant on the internet in attitudes to unions.

At best, it might be said that those heavily reliant on social media and the internet are more pro-union, though we hesitate to be very dogmatic about that. It may simply be that workers who are less isolated and more exposed to information from any source will be more positively inclined towards unions. Still, social media and the internet seem to have potential for further, persuasive use by unions.

Whatever the explanation, it appears that even if social media are good for spreading conspiracy memes, and this certainly is the case in relation to memes about the Covid-19 pandemic, they have little net role in spreading anti-union ideology. In contrast, they may even be potentially useful for disseminating pro-union ideas. While trade unions could therefore usefully increase their use of social media for their information campaigns — this should have a positive effect on individuals' attitudes — the strongest positive effect still comes from proximity, from close individual contact with

trade unions, be it through one's own membership or in contacts made with other trade union members.

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Authors

Georgina Murray is a Senior Research Fellow at the Center for Work Organization and Wellbeing at Griffith University, Brisbane/Australia, and an Adjunct Associate Professor in humanities at that university.

g.murray@griffith.edu.au

Werner Nienhüser is Professor of Work, Human Resource Management and Organization Studies at the University of Duisburg-Essen.

www.wernernienhueser.de

David Peetz is Professor Emeritus of Employment Relations at Griffith University, Brisbane/Australia, and a co-researcher at the Centre de recherche interuniversitaire sur la mondialisation et le travail (the Interuniversity Centre for Research on Globalisation and Work) in Quebec.

d.peetz@griffith.edu.au

Carolyn Troup is a Research Fellow at the Center for Work Organization and Wellbeing at Griffith University, Brisbane/Australia.

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