

Is polarization less prevalent than perceived?

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Abstract

Over the past years, polarization has become a topic of interest and research has linked pernicious consequences to the perception of polarization. However, research regarding the accuracy of this perception is divided and scarce. We investigated whether polarization is less prevalent than perceived regarding COVID-19 vaccination passports in the UK. We defined Polarization as an opinion-based dividedness of society around which partisan groups form, allowing for the distinction of opinion differentiation (division in opinions) and structural differentiation (division in groups based on these opinions). While opinion differentiation still allows for discussion, structural differentiation leads to avoidance and decreased openness. We hypothesized that objective opinion polarization will be lower than subjective opinion polarization regarding COVID-19 vaccination passports. Furthermore, we hypothesize that British people will perceive themselves to be more open than the average British person regarding COVID-19 vaccination passports. We employed a paid online sample via the platform prolific and aimed for representativeness of the British population regarding age, gender, political orientation and educational background (N=499). Furthermore, we made use of the Polarization Index by Koudenburg & Kashima (2021) to create a measure of polarization and used a Wilcoxon test and a repeated measure design to test our hypotheses. We found that while polarization appears to be *more* prevalent than perceived, this does not compromise our openness towards others holding dissimilar views. It is therefore important to correct biased perceptions of openness in order to prevent the negative consequences of perceived structural differentiation.

Keywords: Polarization, COVID-19, opinion-based groups, openness

Is polarization less prevalent than perceived?

Over the course of the last two years, the COVID-19 pandemic has not only jeopardized our physical well-being, but also the perception of a healthy and cohesive society, creating a picture of extreme polarization. In fact, research has given substantial attention to the consequences of this perceived dividedness, linking it to pernicious consequences including a deterioration of our democratic principles (Iyengar et al., 2012; McCoy et al., 2018; Svolik, 2019), escalation of social conflicts (Bennet 1992; Epstein & Gitlin, 1995; Hochschild 1995) and avoidance of communication (Koudenburg & Kashima, 2021). However, despite the ample research into the consequences of polarization, the accuracy of this perceived dividedness has received less attention. Moreover, research is not just scarce, but also equivocal and divided. While so-called *maximalists* have argued that our opinions are becoming more and more extreme over time (Abramowitz, 2010; Hetherington 2002; McCarty et al., 2001), *minimalists* (Fiorina et al., 2010; Iyengar, 2012) have insisted that the majority of society stays centrist, therefore arguing against the perception of a polarized society. It, therefore, appears as though the question of how polarized society really is, is still disputed.

These considerations put into question our ongoing assumptions about the perception of extreme dividedness, and thus the conclusions we base on these assumptions. This paper examines the possibility of a misperception surrounding polarization. We define polarization as an opinion-based dividedness of society around which partisan groups form (Koudenburg & Kashima, 2021). This definition allows for the distinction between opinion differentiation (division in opinions) and structural differentiation (division into subgroups based on these opinions; Koudenburg & Kashima, 2021). We will use the division of structural and opinion differentiation in order to examine the accuracy of the perception of opinion polarization while also addressing people's perception of openness as a symptom of structural differentiation (Koudenburg & Kashima, 2021).

Opinion differentiation

Opinion differentiation is defined as the perceived extent to which opinions in society are divided (Koudenburg & Kashima, 2021). The mere existence of differing opinions can create tension between people. This is due to the fact that humans usually strive for consensus (Byrne, 1961), and disagreement can lead to uncertainty (Moscovici & Personnaz, 1980), which in turn creates tension (Schudson, 1997). However, it has been shown that if tension arises merely due to differing opinions, people do not show defensive reactions and do not have the tendency to avoid the topic (Koudenburg & Kashima, 2021). Therefore, even though opinion differentiation can lead to discomfort due to uncertainty, it still allows for openness for discussion. Indeed, in line with healthy democratic functioning (e.g., Jacobs et al., 2009), people may even want to engage in discussion, in order to resolve these tensions (Koudenburg & Kashima, 2021).

Structural differentiation

Structural differentiation, on the other hand, is marked by the perception of societal division into opinion-based groups (Koudenburg & Kashima, 2021). The image that differing opinions are entrenched in opinion-based groups (Turner et al., 1997) can lead to the perception of an outgroup (Billig & Tajfel, 1973), creating an “us vs them” perspective (McCoy et al., 2018). This perspective can have various negative consequences. While humans are prone to be protective over their ingroup, they tend to hold negative emotions towards outgroup members (Turner, 1979). It is consequently not surprising that the perception of structural differentiation can lead to more defensive responses and aggressive attitudes (Lodge & Taber, 2005). Furthermore, it has been shown that the perception of structural polarization leads to the belief that opinions are fixed, therefore leading to the avoidance of discussion (Koudenburg & Kashima, 2021). Therefore, while both identified

forms of polarization create discomfort, opinion differentiation has the potential to invite communication, while structural differentiation leads to avoidance. Accordingly, a strong component of structural differentiation appears to be a decreased openness towards people with differing opinions. Openness can be operationalized as whether people are willing to discuss and change their opinions (relating to entrenchment) and whether they are willing to become friends, (relating to relational threat). Therefore, openness gives an indication of the structural differentiation in society.

Previous research seemed to have referred to this type of polarization (and therefore openness) when calling group-polarization a *source* effect (Myers & Lamm, 1976) and pointing out the emotional as well as identity aspect of polarization (Baldassari & Gelman, 2008; Iyengar et al., 2012). However, while research addressed these aspects of structural differentiation, it did not specifically define and analyze it in isolation. This study will operationalize structural polarization with perceptions of openness.

Is society polarized?

There is reason to believe that it is not. The European social survey (2018) has shown that, when referring to political affiliation on a left to right scale, most people in the UK consider their political ideology to be rather centrist (on a scale from 0 to 10, 59.2% of participants indicated to fall between 4 and 6). Furthermore, Bursztyn et al. (2020) found that oftentimes public views seem to change and are expressed more, while private views seem to stay the same. This could therefore suggest that our perception of other people's opinions might be more extreme than they actually are. A heavily disputed subject in the past weeks has been the consideration of COVID-19 vaccination passports in the UK. This study will, therefore, investigate how accurate our perceptions are surrounding opinion polarization regarding this specific topic, leading to the first hypothesis.

Hypothesis 1. Objective opinion polarization will be lower than subjective opinion polarization regarding COVID-19 vaccination passports in the UK.

In order to overcome potential opinion differences, it is important that people are open to discussing their views. However, it is not just crucial that we ourselves are open towards discussion, but also that we perceive others to be. Unfortunately, research in social psychology has shown that we are oftentimes not as accurate in inferring what other people's attitudes are as we think, which could lead to a wrong perception of openness. One famous example of how our perceptions of others can be deceiving is the phenomenon of *pluralistic ignorance*. Pluralistic ignorance is characterized by a false assumption of how people think and feel (Allport, 1924), which is accompanied by a biased perception about others in comparison to oneself (Park et al., 2007). This biased perception is usually voiced as an imagining of *universality* of other people's attitudes, while people perceive a sense of *false uniqueness* about themselves (Prentice & Miller, 1993). In this way, pluralistic ignorance serves as an example for misperception and can relate to how our own attitude can substantially differ from our perception of others. The effects of this misperception are well-documented and persistent across a variety of domains (Latane & Darley, 1968; O'Gorman, 1975; Prentice & Miller, 1993). In relation to polarization, pluralistic ignorance has been observed in several related societal issues such as racial segregation (Breed & Ktsanes, 1961; O'Gorman, 1975), political concerns (Shamir & Shamir, 1997), voting behavior (Granberg & Brent, 1983; Noelle-Neumann, 1993), and norm misperception of the degree of conservativeness (Bicchieri & Fukui, 1999; Kauffman, 1981; Wheeler, 1961). The findings motivate our belief of a biased perception of other people's attitudes. With pluralistic ignorance as an underpinning (Prentice & Miller, 1993), we will investigate whether people have a biased perception of their own openness in comparison to other people.

Hypothesis 2. British people will perceive themselves to be more open than the average British person regarding COVID-19 vaccination passports.

Answering these questions can contribute to a better understanding of how accurate our perceptions of polarization are. Furthermore, the investigation of these questions is important as perceived polarization can work as a self-fulfilling prophecy (Koudenburg & Kashima, 2021). Correcting possible wrong perceptions could lead to behavioral changes of more openness towards discussions and therefore stop further possible extremization by creating a mutual understanding of differing opinions. In order to explore the influences that drive polarization and possible consequences of it, it is important to investigate if our ongoing assumptions about extreme polarization, and the conclusions we base on these assumptions, are accurate. In our research, we will look at opinion differentiation and structural differentiation separately, as both can have different consequences (Koudenburg & Kashima, 2021).

Explorative analysis

Given that previous research has suggested that social media influences polarization (Iyengar et al., 2012; Roos et al., 2020) and misperceptions (Shamir, 1995; Shamir & Shamir, 1997; Gunther & Chia, 2001), we will explore the possible effect social media exposure can have on openness perceptions.

Furthermore, as the research by Kim & Park (2019) has suggested that the perception of perceived opinion polarization and openness are closely associated, we will investigate a possible relation between perceived opinion differentiation and perceived openness.

Methods

Participants

For the purpose of this study, we employed a paid online survey via the platform *Prolific*. Our aim was to achieve a representative sample of the British population including age, political orientation, educational background and gender via the pre-screening option. Therefore, the sample was representative of the British population including age ($M_{\text{age}} = 44.3$, $SD_{\text{age}} = 17.1$, range = 18-86) (*Age groups*, 2018), political orientation (19% left-wing, 63.6% centrist, and 17.4% right wing) (European social survey, 2018), educational background (19.4% lower education, 39.4% middle education and 41.2% higher education) (European social survey, 2018) and an equal distribution between male and female (49.9% female).

There were 499 completed surveys. 98 participants who did not pick up on the attention check were directed to the end of the survey and removed before analysis via list-wise deletion. An a priori power analysis conducted in G*power showed that for the first hypothesis, a small effect can be detected with a sample size of 272 with a power of .95, and alpha set at .05. Regarding the second hypothesis, a power analysis showed that a sample size of 219 would yield 95% power to detect a small effect ($f = .1$) at $\alpha = .05$. Beyond the consideration of power, we increased the desired sample size to 500 in order to get a representative sample on all desired factors.

Design

We used a Wilcoxon test to compare the constant of objective polarization (based on the full sample) to mean subjective polarization (per participant). Furthermore, we used a repeated measures design (target: self vs average British person, within participants) in order to test the openness hypothesis.

All Attitudes, polarization perceptions, and openness measures, concerned the topic of COVID-19 vaccination passports.

Measures & Procedure

Objective measures of opinion differentiation

This study made use of the *Polarization Index* by Koudenburg & Kashima (2021) in order to measure objective perception of opinion differentiation. Participants were introduced to an explanation of the COVID-19 vaccination passports, followed by an extreme statement about it, namely “We need vaccination passports in order to keep the pandemic under control, even if it comes at the expense of human freedom”. Participants were then asked to indicate how much they agree with the statement on a 5-point scale of *strongly disagree*, *disagree*, *neither agree nor disagree*, *agree* to *strongly agree*. We used the weights of the polarization index (established by Koudenburg & Kashima, 2021) to calculate a polarization score of our sample, which was used as the “objective” measure of opinion polarization.

Subjective measure of opinion differentiation: Polarization index

As with the measure for objective opinion differentiation, we used the Polarization Index (Koudenburg & Kashima, 2021) for the subjective perception of opinion differentiation. For the same statement about the COVID-19 passport, participants were asked to think of 10 random British people and distribute how much they think each person would agree. The exact instructions were adjusted from the questionnaire of Koudenburg & Kashima (2021): *to statement X, how many out of 10 British people do you think would strongly agree? How many out of 10 British people do you think would agree? And so on for neither agree nor disagree/ disagree/ strongly disagree*. The responses were constrained to add up to 10.

In order to calculate the polarization index, weights are assigned to each pair of answers. These specific weights were determined by the judgment of 60 polarization experts (see Kashima & Koudenburg, 2021). Difference pairs (1,2)(2,3)(3,4)(4,5)(1,3)(3,5) receive no weights, while the polarization index is calculated for score pairs by $P = 1.07 \times \% \text{ of score}$

pairs (2,4) + 1.35 X % of score pairs (1,4)(2,5) + 1.98 X % of score pairs (1,5). Therefore, the index is highly sensitive to an exaggerated division between two camps, even more so than to the standard deviation.

Openness

Our method to assess potential misperceptions of openness regarding the COVID-19 vaccination passports was informed by the pluralistic ignorance methods of Prentice & Miller (1993). The dependent variable about the perceptions of openness regarding the COVID-19 topic was measured by a questionnaire about openness perceptions. We asked participants to evaluate their own openness and the openness of the average British person in order to be able to compare the two targets. Participants had to think of their opinion regarding the COVID-19 vaccination passports and were then asked to respond to four sentences about openness: “*I am open to listen to someone’s perspective on this issue even if they disagree with me*”, “*I am open to changing my views, when encountering arguments that contradict my views on this issue*”, “*I would be able to become friends with someone who disagrees with me on this issue*”. The Cronbach’s Alpha for the four items was $\alpha = .7$. All four items were combined into one scale. Specifically, participants were asked to indicate how applicable the statements were to them ranging from *does not apply to me at all*, *does not apply to me*, *neither does nor does not apply to me*, *applies to me* to *applies to me very much*.

Furthermore, they were asked to indicate how applicable the same statements are to their perception of the average British person with a scale from *does not apply at all*, to *applies very much*. The Cronbach’s Alpha for the openness items for British people was $\alpha = .7$ and the four items were also combined into one scale

Explorative analysis

In order to explore the role of media exposure, we asked participants how much time they spend on social media platforms ranging from *none at all*, *once a week*, *less than 30 minutes a day*, *more than 30 minutes a day*. Furthermore, they indicated what kind of social media they use with the options being *Twitter*, *Instagram*, *Facebook*, *Other*, or *I do not use social media*.

Furthermore, we used the measures for objective and subjective opinion polarization and openness in order to explore possible correlations between the variables.

Results

The results will consist of a preliminary analysis and a confirmatory analysis. The confirmatory analysis will be presented in three sections. The first section centers on the comparison between subjective and objective opinion polarization (hypothesis 1). The second section juxtaposes one's own perceived openness with the perception of the average British person's openness (Hypothesis 2). Lastly, an exploratory analysis will be presented that looks at the possible influence of media exposure and correlations between the variables.

Preliminary Analysis

In order to test the hypothesis of overestimation of polarization, we compared the subjective and objective measures of polarization of the polarization index. Due to the violation of normality, this test was conducted via the Wilcoxon test.

Furthermore, a repeated-measures ANOVA was conducted in order to examine the difference between openness perceptions of the two comparison targets (self and average British person). As Mauchly's test for sphericity showed that the sphericity assumption was violated ($p < .001$, Greenhouse-Geisser = 1), a Huynfeld correction was applied in order to interpret the results.

There were no identifiable outliers within the data set.

Confirmatory analysis

Subjective and Objective opinion Polarization

A Wilcoxon test, comparing mean subjective polarization with the constant of mean objective polarization, was conducted. It was hypothesized that subjective polarization will be greater than objective polarization. Not in line with the hypothesis, the objective opinion polarization in our sample ($M = 0.5$) appears to be significantly larger than mean subjective opinion polarization ($M = 0.3$, $SD = 0.2$), $W = -5.48$, $p < .001$.

Openness

A within subjects repeated measures ANOVA was conducted to test whether British people would perceive themselves to be more open than the average British person. In line with the hypothesis, the results showed that participants perceived themselves ($M = 3$, $SD = 0.5$) to be significantly more open than the average British person ($M = 2.7$, $SD = 0.3$), $M_{\text{diff}} = 0.2$, $F(1, 498) = 158.54$, $p < .001$, $\eta_p^2 = .24$.

Exploratory analysis

Media

A repeated measures ANOVA showed that there is no interaction between the categorical variable social media exposure (None at all, once a week, less than 30 minutes a day, more than 30 minutes a day) and openness perceptions (target: self, average British person), $F(1, 495) = 2.08$, $p = .102$, $\eta_p^2 = .00$.

When adding social media exposure as a covariate, the type of social media that participants consume (Twitter, Facebook, Instagram, other) also showed no significant

interaction between openness perceptions for Twitter ($F(1, 490) = 0.35, p = .54, \eta_p^2 = .00$), Instagram ($F(1, 490) = 0.38, p = .54, \eta_p^2 = .00$), and Facebook ($F(1, 490) = 0.85, p = .357, \eta_p^2 = .00$)

Correlations

No significant correlations between the perception of own openness, perception of the average British person's openness, attitudes regarding the COVID-19 passport, and the perception of other people's attitudes towards the COVID-19 passport. However, one's own perceived openness appears to be related to the perception of the average British person's openness (see Table 1).

Table 1

Pearson-Correlations for openness self, openness British person, attitude self and attitude British person

	Openness self	Openness BP	Attitude self	Attitude BP
Openness self	1	.27	.01	-.06
Openness BP	.28	1	-.08	.02
Attitude self	.01	-.08	1	.03
Attitude BP	-.06	.02	.03	1

Discussion

In light of increasing concern about an extremely polarized society, this article investigated the accuracy of these perceptions. Specifically, we looked at the accuracy of both opinion and structural differentiation perceptions (operationalized as perceived openness).

It was shown that opinion differentiation is even more prevalent than perceived, while people generally perceive themselves to be more open than others. Specifically, we looked at the comparison of subjective opinion polarization and objective opinion polarization. Not in line with our hypothesis, we found that objective opinion polarization on COVID-19 vaccination passports exceeds subjective opinion polarization, indicating that opinion polarization regarding the COVID-19 passport is more prevalent than perceived in the British population. Regarding structural differentiation, we hypothesized that British people perceive themselves to be more open than the average British person. In line with our hypothesis, perception of own openness was larger than the perception of the average British person's openness. Furthermore, we conducted an exploratory analysis, regarding social media exposure and a possible association between both forms of polarization. The analysis showed no association between social media exposure and perceived polarization and no association between the two polarization measures.

Implications

The current research demonstrates that while British people's opinions appear to be more polarized than perceived, they also appear to be more open than perceived. This finding underlines previous findings of opinion differentiation that suggest that the mere division of opinions still allows for openness for discussion and can even encourage it (Koudenburg & Kashima, 2021). However, we perceive others to be less open than us. As we operationalized openness as the willingness to discuss and change opinions and being able to become friends with someone who disagrees with us, perceived openness gives an indication of structural

differentiation. As was evident in previous research, it is exactly this perception that our opinions are entrenched in group membership that has the potential to lead to the negative consequences often associated with polarization (Koudenburg & Kashima, 2021). Therefore, *perceived* structural differentiation (and therefore openness) can lead to the negative emotions we experience when encountering contradicting opinions, the perception that opinions are unchangeable, and therefore consequently leading to avoidance (Koudenburg & Kashima, 2021). This avoidance can create the picture that we are deeply divided, while in reality, we are still very open towards each other.

It has also been shown that, again, the mere *perception* that we are divided can work as a self-fulfilling prophecy by making us behave as if we were actually divided (Kashima & Koudenburg, 2021). Therefore, it is not unlikely that, while we see ourselves to be open towards others, we do not necessarily act accordingly due to the perception that others are not, and therefore potentially catalyzing social change towards polarization (Kashima & Koudenburg, 2021). The finding that our openness perceptions are biased is therefore important because it can allow us to correct them. Providing information about misperception and the true attitudes of others can lead to the reverse of its negative consequences (Bursztyn, 2020; Geiger & Swim, 2016). On a positive note, while we are more polarized than perceived, this appears to not compromise our openness towards each other, but rather just our perception of other people's openness. By correcting these wrong perceptions and acknowledging that polarization does not necessarily need to divide us, it becomes possible to create a positive outlook regarding polarization and prevent the catalyzation of social change based on wrong assumptions.

Furthermore, our explorative analysis showed that our perception of openness appears to not be influenced by social media exposure. This result is not in alignment with previous research that consistently associated social media with polarization (Kim & Park, 2019;

lyengar et al., 2012). This could suggest that we are not as receptive to the external influence of social media as often assumed. However, we specifically focused on the topic of COVID-19 vaccination passports. As COVID-19 has received extensive media coverage since the onset of the pandemic, it is also possible that the influence of social media was overshadowed by traditional media platforms. It could therefore be of interest for future research to investigate multiple sources of media and news coverage instead of isolating the influence of one media platform. Furthermore, since our sample was representative in age, not all generations are equally acquainted with social media and it is possible that an older age group, for example, uses different forms of media.

Furthermore, we explored a possible association between both polarization measures. We found no relations between openness perceptions and subjective and objective opinion polarization. This finding is not in line with previous research of Kim & Park (2019), who suggested that the perception of perceived opinion polarization is mediated by open-mindedness. However, the different findings could be due to differing definitions of polarization. The definition of polarization we employed allows for the specific distinction between opinion polarization and structural polarization. With this definition, the two forms of polarization might be related in two opposite ways, which could explain why they are not correlated. It has been shown that whenever we experience a wide variety of opinions, the tension that arises due this encounter can encourage communication in order to get a common understanding of the issue at hand. However, when we perceive opinion polarization to be entrenched in societal groups, we perceive opinions to be rather stable and it is less likely that people are open for communication (Koudenburg & Kashima, 2021). Therefore, openness and opinion polarization might be related in two opposing ways.

The investigation of whether opinion and structural differentiation are less prevalent than perceived is crucial for our understanding of polarization. This research is therefore of

importance, as it did not just contribute to the answering of this question, but also proposed a way to counterbalance negative consequences of perceived polarization.

Limitations

In the current research, we placed a strong focus on a highly representative sample. However, we only examined the perception of polarization regarding one topic. This came to the cost of external validity. Furthermore, as we only asked for social media exposure. Future studies could investigate different topics while also exploring the influence of different types of media exposure.

Conclusion

In the present article, we demonstrated that the dividedness of our opinions does not have compromise people's openness towards each other. However, the mere perception that we are deeply divided and not open towards each other can lead to the negative consequences we experience due to polarization. By correcting biased perceptions about our openness towards each other, it becomes possible to create a positive outlook regarding polarization and prevent the catalyzation of social change based on wrong assumptions.

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