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DO EMOTIONAL RESPONSES TO DATA VISUALISATION MOBILISE PEOPLE TO ACT? A CASE STUDY OF CLIMATE CHANGE VISUALISATIONS IN DIFFERENT NATIONAL CONTEXTS

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Background

There has been a huge rise in the visual communication of data and information in the form of data visualisation (datavis) in everyday social life and on social media. Politicians, designers, activists and campaigners increasingly use datavis in topics ranging from climate change and elections to Covid-19 distribution and social inequalities, hoping that it is an effective tool not only in communicating information to the public and reaching a variety of recipients but also in mobilising them to undertake the actions they deem necessary. Yet there is little understanding of the role of this datavis and its social impact in different national and geographic contexts. In this context, understanding the role emotions play in engagements with datavis published on social media is especially important, because emotions are vital components of making sense of data, as a number of practitioners and scholars argue (such as D'Ignazio and Bhargava, 2020; Gray, 2020; Kennedy and Hill, 2017). Moreover, Nærland (2020) suggests that datavis enable and mobilise people to function as citizens and take part in political debates or everyday discussions among citizens. However, this claim has not been researched empirically and sociological research has yet to explore emotional experiences of datavis and where they can lead. Existing studies of the perceptions of datavis have mostly been carried out from a computer science or psychological perspective, often failing to recognise the social aspects of engagements with datavis (Kennedy et al., 2016). Little has been done to empirically explore datavis emotional impact taking into account national and other demographic differences among social media users. This may be due to an assumption that data and thus datavis are objective reflections of knowledge and do not make much of an emotional impact. In contrast, this paper considers emotions as a central aspect of social and political experience (Ahmed, 2004; Wahl-Jorgensen, 2018) and a vital aspect of users' engagements with data visualisation (as seen in Kennedy and Hill, 2017).

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Objectives

My paper offers original insights into diverse users' emotional responses to data visualisations about climate change through a sociological lens and considers whether and how these emotional responses may subsequently prompt political participation in different national and geographic contexts. I do this through a focus on climate change as a case study, investigating data visualisations produced or disseminated on Facebook, Instagram and Twitter by Carbon Brief, Climate Science, Greenpeace and the World Wildlife Fund, organizations from the UK and Poland.

Responding to the limited academic empirical interest in social media users' experiences of data visualisation and recognising the significance of this for political participation, the primary aim of this paper is to learn more about diverse users' emotional responses to social media datavis and what they mean for mobilisation and political participation in different national and geographic contexts in a datafied democracy.

Method

As indicated previously, the main discipline researching how users engage with visualisation is computer science (as noted by Kennedy et al., 2016), which often focuses on the visual text and does not provide much information about the study participants. Consequently, these research projects mostly try to quantitatively assess the effectiveness of datavis and its visual elements. However, Kennedy and colleagues (2016) argue that due to the social nature of datavis, the "context of visualisation use and other factors outside the visualisation texts are also important in determining visualisation effectiveness" (p.4). Qualitative sociological research can offer a counterbalance to these often quantitative and decontextualized studies. Sociological approaches take into account social factors outside the visualisation text, such as "who are the users and what are their circumstances" (Kennedy et al., 2016, p.5), presenting a picture that is far more complex than other studies mentioned above can offer.

Therefore, this empirical study employs a comparative mixed qualitative methods approach, incorporating semiotic analysis of thirteen data visualisations about climate change published on Facebook, Twitter and Instagram, nine semi-structured interviews with ten data visualisation professionals from six organisations who design, commission and/or disseminate data visualisations about climate change on social media, thirty-four semi-structured interviews and thirteen follow-up interviews with diverse social media users who responded to the data visualisations about climate change on Facebook, Instagram or Twitter.

Results

The paper argues that datavis can be seen as what I have called an 'emotional repository' of dynamic and complex emotional experiences. These emotions play an important role in mobilising social media users to participate in datafied democracies, more often on an individual and daily level, and less frequently on a collective and

public scale; and they do so in different ways, depending on national and geographic contexts and other demographic characteristics.

Moreover, the paper argues that different national contexts and other demographic and social factors may lead to unequal emotional engagement with datavis and mobilisation or lack thereof. It suggests that some demographic, often vulnerable, groups may be discriminated against in data(vis) practices (D'Ignazio and Bhargava, 2020) which may be the reason why some people on social media do not engage with datavis or do not pay attention to datavis and are consequently not mobilised by it. Finally, it is suggested that datavis, in this case about climate change, may be skewed towards and target the interests of White (usually) men, from the Global North. This, in turn, can create blind spots around the needs of more vulnerable people, including ethnic minority communities, and lead to a lack of emotional engagement and consequently non-participation in, for example, environmental activities (Clarke and Agyeman 2010).

The paper makes an original contribution to the internet research, sociology of emotions, critical data studies, the limited existing research on data visualisation in society, and the emerging sociology of data, by advancing understanding of experiences of data visualization published on social media from an audience 'bottom up' perspective (Couldry and Powell, 2014) and focusing on factors that affect diverse users' engagement and political participation.

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