The Ethics of Psychometrics in Social Media: A Rawlsian Approach

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Abstract

Targeted social media advertising based on psychometric user profiling has emerged as an effective way of reaching individuals who are predisposed to accept and be persuaded by the advertising message. In the political realm, the use of psychometrics appears to have been used to spread both information and misinformation through social media in recent elections in the U.S. and Europe, partially resulting in the current, public debate about 'fake news'. This paper questions the ethics of these methods, both in a commercial context and in the context of democratic processes. The ethical approach is based on the theoretical, contractarian work of John Rawls which serves as a lens through which the author examines whether the rights of citizens, as Rawls attributes them, are violated by this practice. The paper concludes that within a Rawlsian framework, use of psychometrics in commercial advertising on social media platforms is not necessarily unethical, since the user enters freely into a contract that allows for psychometrics to be used, and because this type of advertising is not necessary for full participation in society. The opposite is the case for political information, and thus, the paper concludes that use of psychometrics in political campaigning violates several of Rawls' ethical maxims.

1. Introduction

Analysis of a social media user's behavior through collection of data is now a common practice, and has been subject to both criticism and scholarly inquiry for many years. The construction of a social profile on a user is one of the main monetization tools for providers of social media services and the tools of this trade are constantly evolving [1],[2]. Recently, some attention has been paid to the concept of psychometrics and their utility in predicting personal traits of social media users to subsequently predict their behavior when exposed to hyper-targeted advertising [3],[4]. The psychometric trend has spilled over from advertising and marketing into other realms of strategic social media persuasion, most notably politics.

As this type of hypertargeting moves from the commercial sphere into the sphere of public discourse and democratic processes, it may be prudent to begin interrogating the ethics of the methods being used. The question is whether there is an ethical difference between collecting data and conducting psychometric analysis with the purpose of persuading receivers of advertisements versus persuading voter groups. Though it can be argued that both situations have a similar, asymmetrical power balance, there are contextual differences that separate the two types of persuasion scenarios, and this may prove to have consequences for the normative evaluation of the methods on a societal level. Persuasion tactics in elections are part of the democratic process itself and for this reason, it can be argued, they deserve a higher level of normative scrutiny, particularly since a substantial part of the literature in moral and political philosophy is dedicated to the construction of a just society and fairness in democratic processes.

In this paper, I will use the work and positions of one of the foremost thinkers to have ventured into the normativity of democratic processes in the modern era, John Rawls, to interrogate the ethics of using psychometrics as part of a strategy to impact voter groups, whether this is in an election or e.g. as part of an information warfare tactic. Rather than embark on mission similar to the impressive work done by Robinson [2] on a Rawlsian approach to data mining in general, I have chosen to focus on this particular method of data collection and analysis, as I believe it in itself carries some very interesting ethical dilemmas.

From the starting point of an overview of the use, norms and ethics of psychometrics in the commercial social media sphere, I will follow the trajectory of psychometric persuasion tactics into democratic processes and cast a light on some problematic issues that arise from this transition.

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2. Psychometrics for advertising on common social media platforms.

Psychometrics, understood broadly as personality traits and behaviors that can be evaluated/measured and scored for different purposes, is a field with a long history that can be traced all the way back to Darwin [5].

While there are some standard psychometric models (more on this later), oftentimes social media platforms will create their own metrics to build the social profile needed to increase the accuracy of targeted advertising. The latter term is used in this paper to describe advertising and marketing efforts in varying expressive forms that attempt to address the needs of the individual as directly as possible. Several studies have shown the high efficacy of targeted advertising [6],[7],[8],[9] and the economy that has emerged around targeted advertising also shows that advertisers at least have a perception that it is effective.

Psychometrics are really a dimension of micro-segmentation, a marketing concept in which advertisers are able to divide the population into small segments with comparable personality traits and preferences. By doing so, it is possible to more narrowly advertise to a specific group rather than to a mass audience, which is usually more expensive [10]. Traditionally, advertising cost prices have been determined by the amount of exposure the advertising medium yields, i.e. how many people watch a tv ad or pass by a billboard. With micro-segmentation, advertisers can ignore all those who have no interest in the product being advertised, and instead push to persuade those who are already inclined to listen [11].

Psychometrics can be viewed as a tool that places individuals into micro-segments. By attributing certain traits and behaviors to an individual, social media platforms can build a so-called "social profile" on a user, bundle users from a certain segment together and offer advertisers an audience that is already interested in the product they want to sell [1].

Facebook's use of psychometrics for advertising purposes has been revealed by journalists [12] and even by one of its own former program managers, who helped construct the psychometric system on the world's largest social media platform. In fact, while describing a (since abandoned) tool constructed by the Facebook data team which used data to recommend Facebook Pages to users, Garcia-Martinez [13] asks a question that is perfectly relevant to the discussion in this paper. The algorithm of the tool in question would start "..spitting out…Every ethnic stereotype you can imagine". As Noble [14], Srinivasan [15] and many others have shown, this type of bias often occurs in algorithms considered transparent by their makers,

leading to the current wave of algorithmic critique in information and communications studies as well as related fields. Garcia-Martinez' data-centric approach leads him to state that "Sometimes data behaves unethically" which shifts the normative gaze from the interpretation of data to the data itself. Assigning agency to data in this manner is problematic, but this related discussion will have to be dealt with in a separate paper. It is Garcia-Martinez' following question that is of relevance to the present discussion:

"African Americans living in postal codes with depressed incomes likely do respond disproportionately to ads for usurious "payday" loans. Hispanics between the ages of 18 and 25 probably do engage with ads singing the charms and advantages of military service. Why should those examples of targeting be viewed as any less ethical than, say, ads selling $100 Lululemon yoga pants targeting thirtysomething women in affluent postal codes like San Francisco's Marina district?" [13, 13th para.]

One response to this question might be: "Because there is such a thing as marketing ethics". Murphy [16] provides an excellent overview of the many decades of work building ethical frameworks for marketing. The ethical discussion within marketing is almost a reflection of the ethics field itself, with the tools and conditions of the marketing sphere being considered through the lenses of the main schools of ethics and moral philosophy.

One of these, pertinent to this paper, is the deontological, contract-based theories of John Rawls. Several scholars have applied Rawls' work to business and marketing [17],[18],[19]. In particular, Freeman [20] expands Rawls' conception of a fair contract to business contracts. Freeman writes that a contract is only fair, "if the parties to the contract would agree to it in ignorance of their actual stakes", echoing Rawls' "veil of ignorance" concept [21], through which one must consider the conditions of a social contract if fairness is to be achieved.

This raises the question: Is the contract that e.g. Facebook enters into with the user a fair one? There is no need to consider a conceptual contract here, a very real one comes into existence, every time a user registers with Facebook and accepts the terms and conditions of using the service. The ethics of these end-user license agreements and similar texts have been discussed elsewhere, particularly in light of the privacy concerns they give rise to [3],[10]. Most scholars agree on one point: Though the pervasiveness of social media may apply pressure on the individual to engage with them or become a social outcast [22],[23], the decision still rests with the individual. It is the decision and responsibility of the individual user to accept or decline the conditions under which the user

partakes in the services offered by social media companies. The cost/benefit analysis of what a user gets in return for giving away personal information and agreeing to become exposed to targeted advertising is important, but irrelevant in this paper.

Based on Freeman's use of Rawls above, one can argue that entering into a contract with a social media company like the one referenced here is an unfair proposition. The problem is that this argument hinges on what the needs of the individual are. Where Rawls argues for fair social contracts in a society that it is difficult for individuals to abandon, it is entirely possible to avoid using social media (at least until the time of writing). Unlike basic Internet access or ownership of a cell phone, which Schroeder and Ling [24] likens to a Durkheimian social fact, we have not yet arrived at a point where engagements with social media platforms are necessary to function as a citizen in society. You don't need to be on Twitter to pay your taxes or need an Instagram account to vote. And not having a Facebook account may in fact be beneficial when you apply for some types of jobs.

Thus, when commercial social media platforms use psychometrics for advertising, it is something the user accepts freely when entering into the contract with that platform. There may be ethical issues related to the platform changing the conditions without alerting the user, not upholding their part of the contract, selling psychometric data to third parties without informing the user or not making it clear that psychometric profiling is taking place. But if all users enter into the contract fully informed about the nature of the relationship between social media platform and the individual user, Rawls provides no basis for the argument that the use of psychometrics is unethical for commercial purposes.

3. Psychometrics in political persuasion on social media

When it comes to using psychometrics in social media as persuasive tactics for political or strategic purposes, conditions are different, and there are other ethical concerns at play. As mentioned above, it is entirely possible to be a citizen in society without engaging with social media – at least in most Western countries at the time of writing. But it is substantially more difficult to disengage from society altogether. When we discuss Rawlsian, deontological ethics, we do so within the frame of a society being constructed with fairness as a guiding principle. Although philosophers from Aristotle to Heidegger point to ethics that exist regardless of the interactions of humans [25], the type of deontological ethics discussed in this paper are related to behaviors in which humans

have some sort of impact on each other, on animals and on the environment. When discussing whether the use of psychometrics in social media can be ethical, it is pointless to consider the singular individual outside society, since both psychometrics and social media are contingent on interactions of humans. I shall therefore, going forward in the discussion, disregard any hypothetical situation in which society does not exist, or where the individual can abandon society with ease.

Upon the acceptance of the existence of a society in which psychometrics can be used in social media, the Rawlsian question then becomes: Is it fair to use psychometrics in social media, given that we strive for a just society? Can a society that holds fairness as a guiding principle allow for the use of psychometrics in social media when the intent is political?

Rawls is quite clear on this point. For a society to be just, it must be "well-ordered" [26, pp. 8]. This means that the basic principles governing individuals and society, chosen by those who constructed the society, must be transparent to the citizen. The mechanisms of the system of governance must be clear to the citizen, and citizens must be able to participate in these mechanisms. This does not mean, e.g. that law enforcement in society must be completely transparent and nothing can be classified. But it does mean that citizens must find transparency in the mechanisms through which something is kept secret from them, and must agree that this ability should be given to law enforcement. [26].

In other words, Rawls argues that in a just and fair society, citizens must be able to monitor the mechanisms of democracy to ensure that society stays "well-ordered", and they must have access to the information needed to do so. Here, we hit upon the first challenge when it comes to the use of psychometrics in social media in situations of political persuasion. I argue that the precise targeting of information delivery may isolate the citizen from other information sources, if the volume of the information delivered through targeting is so high that it effectively drowns out other sources.

3.1. The case of Michigan in the 2016 U.S. presidential election

During the 2016 presidential election campaign in the U.S., the state of Michigan was key to Donald Trump's victory. It was also one of the states where Trump's victory was smallest, with only a 0.2% voteshare advantage over his opponent, Hillary Clinton. It seems fair to assume that with such a small margin, the breadth of events that could have contributed to the result taking one direction or the other is substantial. In the jigsaw puzzle of variables

that caused Trump to gain this small advantage, it would likely not take the removal or reversal of more than a few variables for the advantage to shrink.

Thus, the information available to the voters may have been crucial in deciding the Michigan vote. A direct causality between the particular constitution of the information made available to Michigan voters and the result cannot be established. But it is not unreasonable to assume that the available information would be at least a part of the equation.

Looking at the state of Michigan in the 2016 U.S. presidential election, Kominska et al. [27] found that misleading "junk news" was being shared as often as "professional" news, both making up approximately 33% of the total content shared in the days leading up to the election. In other words, even if you ignore the existence of filter bubbles and echo chambers [28] and assume that every voter is equally exposed to the different sources of information, every other piece of election-related news given to the voters in Michigan through social media, would be false. The Michigan voters who primarily got their news from social media, would literally only get half the story. The other half of the story was an attempt to sway them in a particular direction.

This is a clear violation of Rawls' rule on the transparency of democratic mechanisms and the citizens' ability to obtain the necessary information to express themselves in a democratic system. By ensuring that half of the information made available to voters is in fact misinformation, citizens' ability to express themselves this way is clearly impeded.

Now, most voters do not get all their information from social media, just a substantial part of it [29]. Also, as mentioned above, voters can freely choose not to engage in social media without disengaging from society. However, even if voters choose to do so, the spillover effect from social media into other types of news media as well as interpersonal communication is enough, I argue, to still have a powerful impact on the general information consumption of voters. This can be seen in studies of how so-called "fake news" stories were picked up by traditional media after first having appeared on social media [30],[31].

In other words, whether or not the individual is actively engaging with social media or not, is somewhat irrelevant. The impact on the generally available information pool happens regardless, and so a citizen who is not on social media, would still – to some extent – use social media-borne information to make a voting decision. Therefore, it is essential to understand how social media persuasion happens, and related to this paper, and which part psychometrics play.

3.2. When psychometrics entered political social media campaigning.

In 2015, Youyou, Kosinski and Stillwell published a paper to much attention that showed how software was able to predict personality traits more effectively than humans, at least within the confines set by the paper [32]. Using only users' Facebook Likes as the main source of data, computers running predictive analytics software were able to place users more accurately within the so-called Big Five model than the users' Facebook friends could. The Big Five or Five-Factor psychometrics model measures the prevalence of five personality traits that spell OCEAN: Openness to experience, Conscientiousness, Extraversion, Agreeableness and Neuroticism [33]. 86,220 participants would fill out a 100-item questionnaire that was used to score the different traits, and this self-evaluation was then compared to Big Five scores provided by Facebook friends with varying relations to the participants as well as the above-mentioned software basing its evaluation on Likes.

The computer-based evaluations had an average accuracy of 0.56 compared to an average accuracy of 0.49 in the human evaluation. This caught the attention of the media, but also of Alexandr Kogan, an assistant professor from the same psychology department at Cambridge where the above study was performed. Kogan had started a consulting company and wanted to license the model used in the study, but was turned down. However, based on his knowledge of the model, Kogan then provided a similar model to Strategic Communications Laboratories (SCL), a company that uses psychological modeling to influence voter groups. In 2013, Cambridge Analytica was formed as a subsidiary of SCL meant to specifically work on U.S. elections. They were hired by the 2016 campaigns of Ted Cruz and Donald Trump, and have also been connected to the Leave campaign in the UK "Brexit" referendum [4].

Beirle et al. [34] point to the widespread belief that Cambridge Analytica and their version of the model that originated with Youyou, Kosinski and Stillwell, played a significant, if not essential part in the election of Donald Trump – something that Cambridge Analytica have also claimed themselves.

3.3. Psychometrics, social media and democracy

Don Fallis [35] points to the necessity of equal access to information in fair society. All three argue that Rawls' veil of ignorance entails equal access to information, as it would be impossible for those

constructing a fair society to do so without information about the stakes. The whole point of the veil of ignorance, in these authors' view, is to make decisions without any preconceptions or prior knowledge, but with the stakeholders possessing a similar level of information. Van den Hoven and Rooksby [36] argue specifically that access to information is a candidate to be one of Rawls' primary goods, i.e. something that everyone has a right to obtain in a fair and just society, and which is essential to the individual's performance of citizenship.

But Rawls is in fact even more specific in his assertion that in order to assert their political liberties and make use of their primary goods in the democratic process, there is a need for "assurance of a more even access to public media" [26 pp. 149]. Rawls sees it as imperative that there is equal access to the educational resources necessary to make informed decisions in the deliberative process he calls "Public Reason" [37, pp. 216].

4. Violations

Here, we hit upon the first of the two ways in which use of psychometrics in political campaigning on social media violate Rawlsian ethics.

It is tempting to believe that there are almost no limits on spaces to store or relay information on the Internet. Even if you assume that to be the case, the emergence of the 'attention economy' [38],[39],[40] showed that there is clearly a limit to how much users of online services can consume of the information presented to them online. The persuasion game in online media is thus a zero-sum game. For persuaders in the online sphere, part of the mission is to succeed in presenting their information in a way that blocks out competing information that may invalidate the persuaders' viewpoints. This is exactly what targeted political campaigning excels in, and in particular the campaigns that use psychometrics. As mentioned above, machine learning-based psychometric targeting has been shown to target the individual better than humans, thus creating a situation where tailor-made information is relayed at the individual level on social media.

Now consider the situation as seen in Michigan, where just as much misinformation was presented to the individual as information. Taking a cue from Luciano Floridi [41], and assuming that untruthful information is in fact not information at all, but misinformation, this means that the individual targeted by psychometric-based campaigning is deprived of the full and free access to factual information required to participate in the democratic process as Rawls understands it, at least insofar the individual uses social

media to access such information. Of course, in Rawls' ideal scenario, a more even access to public media would counterbalance this, and a citizen would always be able to draw information from public media instead of commercial, social media. However, it is clear that more people now retrieve news and other information used in the democratic process from social media than public media, at least in the U.S. [29]. So is it not just a question of educating the public to not trust social media for this kind of information?

4.1. Expectations of transparency

I argue that it is not, in light of the expectations of users when accessing this type of information on social media. Using once again the example of Facebook, the company and its representatives have stated several times that they wish for the platform to be an objective and transparent venue for debate in which all sides can be equally represented in a pluralist vision not unlike Rawls' [21],[26],[37]. There has been much critique of the assumed objectivity and transparency of social media platforms [2],[14],[15],[22] but for the sake of the argument, I will go forward with the assumption that the social media platforms in question have pure intentions in this regard and are at least working towards such a vision.

Facebook's terms and conditions for advertisers [44] as well as their community guidelines [43] are quite clear. Advertisers cannot make statements that are factually incorrect or is intended to mislead the public. This is also applicable to advertising in the shape of sponsored posts to users' news feeds. Those using psychometrics to target users with misinformation or 'fake news' are thus in violation of Facebook's rules. However, much of this misinformation is also spread through sock puppet (fake) accounts, enabling a peer-to-peer virality. This is also in violation of Facebook's rules, this time the terms and conditions for users [42] as well as the community guidelines.

I am not attempting to state the obvious here, that sources of fake news and misinformation on Facebook are in violation of Facebook's own rules. But I argue that users cannot be blamed for expecting those rules to be followed by others and enforced by Facebook so that breaking them have consequences. Whether Facebook actually does this is a matter for another paper.

4.2. Hijacking users' information sources to transmit misinformation

If users have a reasonable expectation that Facebook's own vision of transparency and pluralism

is foundational to the platform, and the rules are there to inhibit the spread of misinformation, the burden is – initially, at least - not on the users to separate misinformation from information. A pragmatic solution to the current problem maybe such a higher level of media and information literacy, but from the standpoint of Rawlsian basic principles for a well-ordered, just and fair society, hijacking (as in Michigan) half of the information available and instead presenting misinformation blocks citizens' abilities to express themselves as citizens.

The role of psychometrics here is the hijacking part. It is important here to note that not all misinformation, fake news or junk news being spread in Michigan came from the Trump campaign. However, according to both Anderson and Horvath [50] and Grusin [51], some of it did, and was distributed to users through micro-segmentation methods employing psychometrics. Psychometrics are unique in this manner, since they enable targeting so precise that it is possible for misinformation to crowd out information presented to the user. This is less problematic with commercial advertising, as the user freely accepts this as part of the contract when engaging with a social media platform. But the user has no expectation of political campaigning using psychometrics, and is not free to disengage from the effect of social media campaigning, as it impacts the entire societal debate in which Rawlsian public reasoning should be taking place.

Again, the user is free to leave social media or ignore advertising, but to be a moral citizen who participates in the democratic process, as Rawls prescribes, the user must be open to an array of viewpoints [26],[37] and therefore cannot simply tune out.

4.3. Uneven information access by definition

Could psychometrics-based political campaigning on social media be used in ways that benefit the citizen's ability to participate in the manner Rawls considers to be that person's duty? I argue that it cannot, and this brings me to the second way that this sort of use of psychometrics is in violation of Rawlsian principles.

As mentioned above, Rawls considers it imperative to the free expression of a citizen's political liberty that there is an even access to public media. The word "even" is important here, as it relates to the equities that dominate Rawls' work. The purpose of psychometrics in political campaigning on social media is to tailor the message as much as possible to the individual user. This is, at its very foundation, a principle of inequity and asymmetry.

One of the few areas in which Rawls agrees with his contemporaries Habermas and Foucault [45], is that there can be imbalances in communication between sender and receiver and that these imbalances can be expressed in power relations. At for least Rawls and Habermas, this touches upon the ethicality of democratic discourse itself, with Rawls arguing that citizens must enter freely and equally into the public reasoning [37] and Habermas arguing that any sort of discourse in the public sphere must be held to certain norms of truthfulness and fairness for it to benefit democracy [46].

Use of psychometrics in political social media campaigns runs counter to this. Not only does the extreme precision and individual-level addressing of the user have the ability to crowd out other viewpoints and reduce the amount of pluralism in the discourse as mentioned above. It also automatically creates a power asymmetry that would not be acceptable under Rawls' and Habermas' doctrines of democratic discourse mentioned above. They both argue for equity in the discourse, but if a user only sees one aspect of one viewpoint, while another user sees another, singular aspect of that same viewpoint because of this type of ultra-precise targeting, this equity does not exist, as one user may not have access to the same information given to the other.

Even if one viewed the citizen's attention as a battleground to be fought over through hypertargeting, lack of access to the amounts of data required to produce reliable psychometrics would be a barrier for grassroots organizations or smaller players in the political landscape that are essential to the pluralism advocated for by Rawls. This structure would be very much contingent on previously established positions of power, which runs contrary to how Rawls argues a fair and just society is built.

In other words, this is problematic even when the communication does not involve misinformation. It is merely a principle of inequity at the heart of hyper-targeted political communication, of which psychometrics is the instrument du jour.

Once again, the use of psychometrics in commercial advertising is different from political campaigning: It may be important to you but from socio-ethical standpoint, it does not matter if you see all the bike advertisements targeted towards you before you purchase a bike. However, in the Rawlsian framework, a well-ordered, democratic society requires its citizens to have access to all the viewpoints they have to choose between, and filtering out some for the purpose of effectiveness of messaging is thus unethical.

5. Conclusion

There are many other ethical aspects of the use of psychometrics in targeted advertising on social media not discussed here. One example is the fact that psychometric methods such as the 'Big Five' method mentioned above can be viewed as partial psychoanalysis or part of a larger psychological, diagnostic process. That takes the discussion in the ethics of involuntary psychological assessment, which is something the mental health field has grappled with for a long time [47],[48],[49]. Closer to the communication, media and information studies fields, it can also be debated whether psychometrics should be used in any sort of communication tactic, particularly with the emergence of location- and identity aware media platforms in public spaces. Is it okay for the billboard that sees you coming to address your needs on a very individualized level, based on who your psychometrics say you are? What happens when psychometric measurement in advertising and persuasion reveals something about that you don't know yourself yet? Another discussion is the long-running debate over social profiles which reaches back before psychometrics entered the picture, and which raises questions about the consequences of defining a person by what can almost certainly only be part of a larger picture, even with the best psychometrics in place.

These, and many other discussions will likely flare up in the future as psychometrics and other means of hypertargeting take up larger and larger roles in our daily lives. In this article, I have focused on the practice of using psychometrics for political persuasion, using social media to both collect data about, but also directly reach individual citizens. I have argued how, in a Rawlsian perspective, using psychometrics in this manner may lead to at least two different situations in which the access to information required to fulfill a citizen's democratic duties is impeded and/or unequal. A plausible future exploration of the matter would entail exploring other ethical schools of thought than that of Rawls', such as a utilitarian or libertarian view of the matter.

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