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Supersharers of Fake News on Twitter

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Extended Abstract

The pathways to news have drastically changed over the last two decades. The rise of social media as a vector for news creates new challenges to open and democratic societies, where parts of society can be misinformed about current events while others are completely oblivious to this happening. Prior work has examined the role of foreign influence campaigns and automated accounts (bots) in spreading misinformation on social media (Bail et al. 2020; Eady et al. 2023; Shao et al. 2018). However, relatively little work has focused on the role of *ordinary citizens* in propagating misinformation online. Recent work has consistently found that a small fraction of people —referred to as supersharers—account for the vast majority (80%) of fake news shared by registered voters on social media (Grinberg et al. 2019; Guess, Nagler, and Tucker 2019). In fact, due to the rarity of supersharers in the population, it is extremely difficult to study a meaningful-size sample of supersharers, identify their distinctive characteristics, examine the socio-technical elements that give rise to their online dominance, or quantify their impact.

A key research question about supersharers pertains to their distinctive sociodemographic characteristics. Prior research is scarce regarding the individual-level characteristics of those sharing fake news, let alone supersharers. Previous empirical work has found that right-leaning individuals share and are exposed to more fake news on social media (Grinberg et al. 2019; Guess, Nagler, and Tucker 2019), and there is ongoing debate about the causal link to conservatism, analytical thinking, and motivated reasoning. Research has also found a strong and positive association between fake news sharing and age, where older adults share considerably more fake news than younger generations (Grinberg et al. 2019; Guess, Nagler, and Tucker 2019), although the mechanisms behind this are not sufficiently clear. Beyond political ideology and age, to the best of our knowledge, no other individual-level characteristic has been significantly associated with fake news sharing, including gender, race, level of education, income, or geographical location. Furthermore, it is unclear whether supersharers fundamentally differ from "average" fake news sharers, and whether they hold more extreme political views. Accurate characterization of supersharers advances our understanding of the potential motivations behind this behavior, contributes to a more comprehensive understanding of fake news sharing, and can guide the development of platform interventions.

In this study, we leverage a large-scale panel of registered U.S voters on Twitter to examine the rare but voluminous phenomenon of supersharers, which could not be measured by traditional methods thus far. We examine the activity of 664,391 panel members who were active on Twitter during the months of the 2020 U.S. presidential election (August to November, 2020, inclusive), and identify a subset of 2,107 supersharers. These are prolific sharers of fake news who account for 80% of fake news content shared on social media, following the definition of Grinberg et al. (2019). Similar to prior work, we rely on a source-level definition of fake news (Grinberg et al. 2019; Lazer et al. 2018) and an updated list based on NewsGuard ratings. We restrict the analysis to political news by identifying tweets with external links that pass a political classifier, which we trained and validated against human coders similar to prior work (e.g., Bakshy, Messing, and Adamic 2015). We address our research question by contrasting the sociodemographic characteristics of supersharers, derived from voter records, with three

reference populations of interest: (1) the heaviest sharers of non-fake political news (SS-NF, N=11,199, defined as the set of panelists that account for 80% of non-fake political news), (2) similarly-sized random sample of panelists (N=11,199), and (3) "average" fake news sharers, defined as users who shared three or more tweets linking to fake news sources, and are not in the supersharers group (avg. fake news sharers, N=10,464).

Preliminary results, obtained using logistic regression models fitted separately to each reference group and the supersharers group, show that supersharers have a significantly higher proportion of women, older, and Republican individuals than all reference populations ($P < 0.01$). Supersharers also have a significantly higher percentage of Caucasians than the panel and the SS-NF groups ($P < 0.001$), but no significant difference compared to the avg. fake news sharers. Figure 1 provides descriptive statistics for these significant effects captured by the regression models. For example, it shows that supersharers have a much higher percentage of women (59%) than all reference groups (avg. fake news sharer 49%; SS-NF 52%; and panelists 50%) and the average supersharer is 58.4 years old, which is 5-17 years older than the reference groups. It also shows that supersharers have the highest proportion of Republicans (64%) and a significantly higher proportion than even the Republican-leaning group of avg. fake news sharers ($P < 0.001$).

Taken together, these results align with and extend prior knowledge. While the findings about political leaning and age are consistent with prior research, this is the first work to demonstrate that supersharers are distinct from highly-active political users as well as "average" users who share fake news. Surprisingly, supersharers have a much higher percentage of women. Together with supersharers' older age and Republican-leaning characteristics, our findings portray a picture of supersharers not as a young, tech-savvy alt-right but rather a dedicated set of individuals with the available means and interest to engage in this activity. Future work could further examine how they share such massive volume of content, their impact online and offline, and whether they are part of a coordinated campaign.

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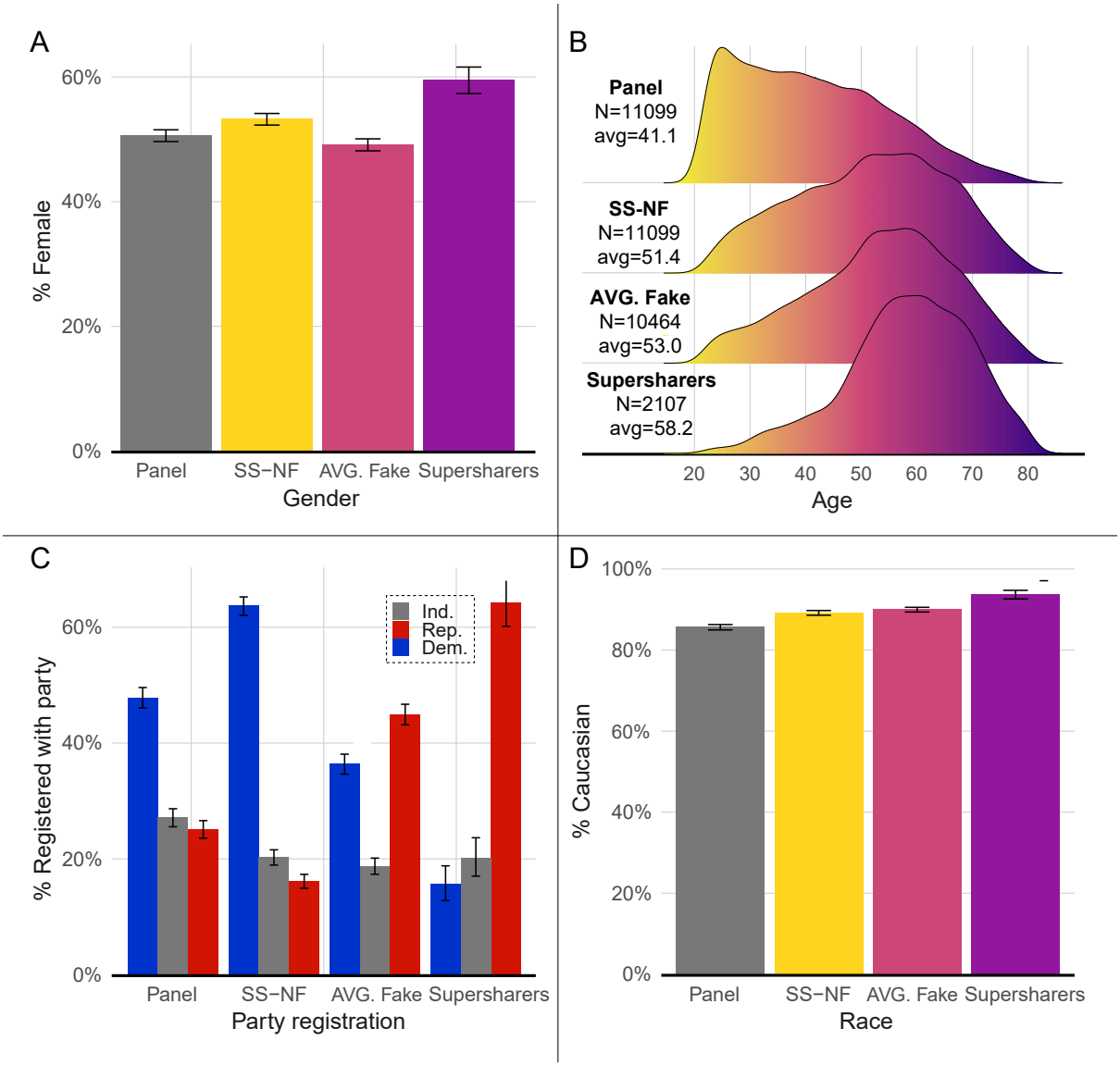

Figure 1: **Demographic characteristics of supersharers and our three reference groups**, including gender (A), age (B), party registration (C), and race (D). Bars show group averages with 95% bootstrapped confidence intervals around them. Panel B shows the full age distribution with standard kernel-density smoothing.