AIBRT
American Institute for Behavioral Research and Technology

Paper presented at the 104th annual meeting of the Western Psychological Association, San Francisco, CA, April 2024.

The Differential Demographics Effect (DDE): Post Hoc Analyses of Multiple Datasets Show the Power of a New and Invisible Form of Manipulation Made Possible by the Internet

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ABSTRACT: Concerns have been raised in recent years about new forms of influence that the internet and related technologies have made possible. Some of these forms of influence are especially problematic because (a) they are controlled almost exclusively by large monopolies, (b) they are difficult or impossible for users to detect, and (c) they often leave no paper trail for authorities to trace. Recent studies have demonstrated that when these techniques are customized based on personal information about users, their impact generally increases. Studies have also shown that the impact of manipulations is greater when especially vulnerable demographic groups have been identified and targeted. In the present study, post hoc data analysis of several existing datasets is used to introduce and quantify yet another possible online form of influence, which we call the "differential demographics effect" (DDE). In its simplest form, DDE occurs when the same potentially consequential content is sent to a large body of users which contains two subgroups of different demographic characteristics. If it is known in advance that (a) each subgroup will respond differently to the content, and (b) the subgroups exist in known but different proportions within the population, then sending that content to all members of the population will produce a predictable margin of difference between the subgroups. Even in its simplest form, this type of manipulation can be used to flip the outcome of a close election. When the likely impact of content is known for more than two subgroups, again, predictable margins can be generated. In both cases, because the same content is sent to all members of the population, this manipulation is, for all practical purposes, invisible to both users and authorities.