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# Research in the Time of Technopanics

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## Abstract

The 2014 “Facebook Experiment” revealed deep divisions within the socio-technical community about research ethics. In this position paper, I argue that emerging popular anxieties and scholarly critiques of “big data” interacted to create a moral panic that pathologized widespread practices and delegitimized the researchers through a variety of tropes. This technopanic suggested ill-defined interventions with the potential to contribute to “deviance amplification” that would exaggerate schisms, reducing transparency and accountability. I draw on scholarship from qualitative sociology around “ethics creep” to argue that calls for expanding the purview of institutional review boards fail to reflect on how such oversight can hamper legitimate scientific inquiry while doing little to minimize harm to research subjects within rapidly-changing methodological terrain.

## Author Keywords

moral panic; ethics creep; research ethics; computational social science; experimental research

## ACM Classification Keywords

K.4.1 [Public Policy Issues]: Ethics; K.7.4 [Professional Ethics]: Codes of ethics

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## Introduction

What has become known as the “Facebook Experiment” will serve as an important historical moment in the popularization and professionalization of data science and computational social science. It both crystallized deep-seated anxieties in popular culture around the ways in which “big data” are collected and its publication comes on the heels of an emerging body of critical scholarship focused on the assumptions, practices, and implications of “big data” [1].

Drawing on scholarship around “moral panics” [4], I use this position paper to examine the extent to which this controversy can be interpreted as a “technopanic” [9, 11]. Popular and scholarly debates are symptomatic of larger anxieties about profound technological and social change. These anxieties fuel media coverage of technology use as dangerous, which in turn justifies irrational regulatory over-reactions. While this episode was grounded in legitimate concerns about corporate power and informed consent, the panic employed familiar tropes meant to delegitimize actors. The early stages of this episode have also been emblematic of a classic sociological process known as “deviance amplification,” which has troubling implications for academic freedom and corporate transparency if the cycle continues to escalate [4].

Appeals to broaden the role and scope of institutional review boards represent a classic case of an ill-conceived policy recommendation that emerges from a moral panic. In particular, this process is emblematic of a broader problem in social science research where “ethics creep” driven by concerns of legal risk management, bureaucratic routines, and burnishing of public reputation overrides more substantive concerns about protecting free academic inquiry and minimizing harm for research subjects [7, 10].

In the face of rapidly evolving socio-technical capabilities and practices, we need to develop alternative ethical frameworks that reflect enduring moral commitments without inappropriately importing 40-year old models intended for biomedical research.

## Moral and technopanics

Sociologists and cultural historians have offered many definitions of moral panic, but Goode and Beh-Yehda offer an integrative definition as a movement that “locates a ‘folk devil,’ is shared, is out of sync with the measurable seriousness of the condition that generates it, and varies in intensity over time” [4]. They expand on these five elements, describing a moral panic as:

“a heightened degree of *concern* about a certain threat or supposed threat; *hostility* toward the agent responsible for that threat, who is regarded as a deviant or ‘folk devil’, a certain level of *consensus* or high level of agreement in the society at large or a sector of the society that the threat is real and who is responsible for the threat; a *disproportion* between the level of the threat, as determined by the available evidence, and the level of concern about it; a measure of *volatility* in a given moral panic episode, that is moral panics tend to leap up, prevail for a time, and fade out.” (p. 48)

Seen through the lens of its critical reactions, the Facebook experiment exhibits many of these features. Concerns about the influence technology companies exert over our private communication led to the widespread identification of data scientists and affiliated researchers as threats to our psychological autonomy. Moreover, this

was not an accident but symptomatic of out-of-control organizations whose actions are unprofessional and unworthy of respect. The expression of concern about this study was widespread with scholars, activists, and journalists debating how best to address the problem of furtive emotional manipulations. Despite self-reported evidence about the negligible effects of this manipulation, many accounts argued that the researchers' actions posed a clear and present danger to participants' mental health and could reasonably be constructed as injurious more than two years after the fact. This episode erupted and faded from collective attention over time as new information came to light, reforms were proposed, and other issues displaced the topic without altering the prevalence of the underlying behavior.

#### *Technopanics*

The role of technology in both precipitating and mediating this panic also adds an interesting flavor to existing conceptualizations that are framed around the effects of mass media. A *technopanic* is "an attempt to contextualize the moral panic as a response to fear of modernity as represented by new technologies" [9]. While Marwick defines technopanics in the context of media use among young people, her definition can be generalized as cultural anxieties that pathologize technology use and manifest in attempts to modify or control behavior.

Revelations about the prevalence of randomized trials within socio-technical systems, the apparent lack of institutional review for human research subjects protection, and the potential for these systems to subtly manipulate our emotions and politics all can be mapped onto long-standing concerns about privacy, corporate transparency, and mediation of public goods through private infrastructure. But as was the case with Marwick's

discussion of technopanics around young people's use of digital media, this case was not sustained on grassroots interest alone. Rather, the panic was actively fueled by privacy rights groups, intellectuals' op-eds, and social media conversations among elites, which fits with Drotner's argument that "proponents [of moral panics] often have professional stakes in the subject under discussion" [3]. Sensationalizing the study and cultivating outrage from newly anxious audiences became an expedient way of transforming previously marginalized critiques of "big data" into popular awareness.

#### *Folk devils among us*

Like other moral panics, the technopanic surrounding the Facebook experiment indicted a class of people by placing their alleged behavior outside of the range of respectable morality and inflating their threat to the current social order to excuse hostility against them. Several tropes were deployed to this effect. The most prominent was the data scientist as the proverbial "Wizard of Oz" who manipulates unwitting users into believing the system is something other than it actually is. This trope emphasized how callous data conjurers coveted their statistical tests so dearly that they were oblivious to the malicious affects real people suffered at their hands while cackling among themselves about the nefarious experiments they have already secretly gotten away with. This image of the manipulative data scientist aligns neatly with cultural images of other computerized subcultures like hackers where technical mastery, relative anonymity, institutional autonomy, and complex allegiances lead us to believe their actions are inherently deceitful or dangerous [8].

Other tropes constructed the academic researchers who co-authored the paper or offered defenses of it as subservient collaborationists who were all too willing to

trade their institutional prestige for privileged access to private data. This trope emphasized how naïve researchers surrendered their intellectual autonomy to corporate interests, ignored basic ethical and methodological obligations, and granted irresponsible work the imprimatur of mainstream scholarship. When other researchers offered defenses of the study or critiques of the panicked reaction, they were likewise delegitimized and framed as enablers or incompetents. Like the hacker, this image of the amoral collaborator also aligns with cultural archetypes of sinister and unhinged “mad scientists” whose preoccupation with success without regard for ethical consequences also demands stronger social control [6].

### **Deviance amplification**

The reaction to the Facebook Experiment has a remarkable correspondence to a fundamental process that escalates moral panics. Cohen proposed a model of “deviancy amplification” that traces out the sequence of events that generate moral panics that may be useful forecasting future episodes [4]. It begins with the *initial problem* of data scientists and software engineers trying to understand and manage an exceedingly complex socio-technical system. The *initial solution* is to make the strongest possible causal inferences by drawing on both their privileged position as well as technical skill to manipulate the parameters of the system to conduct randomized controlled experiments without any formal ethical oversight. The *social reaction* to this solution involves exaggerated concerns and distorted perceptions about the motivations and consequences of this work. The *operation of control culture* follows in which stereotypes are exploited to dramatize the issue, escalate the panic, and use the breach to advance agendas.

The next step in Cohen's model is *increased deviance* as

this escalation contributes to the polarization of beliefs about “folk devils.” Empirical scholars could resent critical scholars who advance previously peripheral agendas at the expense of their ability to collect and analyze data. Disaffected social scientists within these companies could leave and be replaced by data analysts with backgrounds in engineering and physical sciences who have neither the ethical orientation towards human subjects protections nor any exposure to concerns raised by social science colleagues. The potential for substantive harm to users increases as professional norms and knowledge disappear and superficial reforms are implemented by satisficers.

The final stage is the *confirmation of stereotypes* where reactions to the operation of control culture play out. Lines of communication and professional exchange between academia and industry wither and the data is no longer made available for research. Critical scholars become *personas non grata* in industry data science circles, which legitimizes their concerns about the hostility to their inquiry. These grievances reinforce anxieties about data industries acting improperly in their stewardship of data and prompt renewed calls for regulation, and the amplification cycle begins anew.

### **Ethics creep**

In response to the alleged ethical violations, critics have called for industrial data science research to be reviewed under the more stringent standards of the “Common Rule” that universities’ institutional review boards (IRBs) are charged with enforcing. However, these proposals are emblematic of “ethics creep” wherein regulatory systems expand far beyond their originally-intended scope and ethical conduct is uncritically equated with following bureaucratic rules. IRB review also has the potential to create adverse incentives for satisficing in which

researchers do the bare minimum of what a committee will approve, rather than thinking critically about ethics in their own research design and methods.

IRBs also differ from other forms of normative regulation in scientific research in several ways. First, they impose prior restraint, preventing research from taking place until approval is granted, instead of trusting professional scientists and punishing offenders. Second, they are typically dominated by concerns coming out of biomedical research that typically lack methodological expertise in qualitative or computational methods. Third, IRBs have also been marked by professionalization where research proposals are increasingly evaluated by compliance administrators rather than expert scientists. These factors combine to have a corrosive effect on scientists' freedom to pursue legitimate research without politically-motivated interference and prioritizes managing bureaucratic routines over substantive evaluations of harm, among many other critiques [7].

But not all university research involving human subjects requires IRB review. The alleged absence of "informed consent" was central to many critiques of the Facebook Experiment, but qualitative researchers have long recognized the limitations of formal informed consent as being alien in some research settings, imposing an undue burden on otherwise unproblematic methods, and spoiling subjects' willingness to participate authentically [5]. The Common Rule's explicit exemptions for educational settings, food safety, and other domains recognizes that some forms of scientific inquiry are irreconcilably embedded within settings. In other words, it would be impossible to conduct research in fields like education, public policy, economics, design, or public health with formal IRB review or expectations for obtaining the

informed consent of entire communities or countries [2]. This highlights the many alternative models for conducting research without resorting to the "ethical imperialism" of importing IRB rules designed for biomedical research [10].

Of course, these critiques apply to IRBs in university, not industrial, settings. But arguments made by the critics of the Facebook Experiment demanding that socio-technical research in industrial settings proceed under a similar model are making a case for institutional isomorphism: these review boards would be charged with similar missions and procedures, would face similar pressures to legitimize themselves through expansion and professionalization, and thus would lead to similar deleterious outcomes. But given the ubiquity of user experience testing, it is unrealistic to think such a system would be practicable in production or at scale. Product managers would be loathe to wait for review on iterations and users would revolt at repeated prompts for their consent. If these IRBs were more narrowly scoped to only reviewing research designs for academic publication, this creates strong incentives to stop data scientists from publicly disclosing their research. Moreover, the prior constraint model creates obvious opportunities for abuse by rejecting research on controversial or sensitive topics: would a hypothetical "Facebook IRB" approve a study on how extremists use the platform to recruit supporters?

### **Alternative models**

The critiques I offered about the role and relevance of IRBs to research in socio-technical systems should not be read as a call for *laissez faire* ethical oversight. Alternative models have been proposed that could inform the development of responsible oversight within industrial data science settings. One is for academic IRBs to publish

their rulings as a form of “common law” that could increase transparency and reduce arbitrariness in decisions. A second would recommend convening more decentralized or ad-hoc peer review boards to review research designs. A third is to evaluate and certify researchers to conduct research in specific settings or using specific methods instead of requiring review for each new project. A fourth is to inculcate ethical values within data scientists by making training more prominent in the technical education and professional development [2, 10].

### Conclusion

The response to the Facebook Experiment meets many of the criteria of a technopanic by inflating the threat of harm, cultivating outrage through the deployment of tropes, and promoting ill-conceived reforms in a rush to judgment [9, 11]. In particular, proposed reforms romanticized IRBs as virtuous advocates for ethical conduct without reflecting on their adverse implications for the practice of social scientific research. In addition to fostering animosity that could contribute to the amplification of deviance, this episode also distracts from more serious risks to online privacy and individual autonomy coming from data brokers and government surveillance, respectively. At this stage, it is impossible to know what consequences this episode will have on the practice of industry-academic collaborations, the economic value and cultural prestige of organizations that engage in this research, and the limitations imposed by internal or external regulators on conducting similar research in the future. But we should be vigilant that these decisions are not made in reaction to moral panics.

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