# Social Media and Social Movements

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#### Abstract

What role does social media play in social movements and political unrest? Twitter, Facebook, Instagram, and Google have all been cited as important components in social revolutions, including those in Tunisia, Egypt, Iceland, Spain, and the global Occupy movement. This essay explores social science claims about the relationship between social networking and social movements. It examines research done on the relationship between social networking, the promotion of activism, and the offline participation in the streets. Can the technology of social networking help activists to achieve their goals? If so, is it just one of many tools they may use, or is the technology so powerful that the right use will actually tip the scales in favor of the social movement? This scholarship divides into optimistic, pessimistic, and ambivalent approaches, turning on an oft-repeated question: will the revolution be tweeted?

## Introduction

Does social media help or hinder social movements? Can the technology of social networking help activists to achieve their goals? If so, is it just one of many tools they may use, or is the technology so powerful that the right use will actually tip the scales in favor of the social movement?

The possibilities and pitfalls that social media creates for individuals are well documented (Chayko 2014; Trottier 2012; boyd 2014; Fernback 2007; Hargittai and Litt 2011; Fuchs 2011), but a robust and empirically driven conversation about the value of social media for social movements is only starting to emerge now, after years of hyperbolic claims. This essay summarizes both the claims and the evidence about the role that social media can play in social movements. The basic question that guides most of the scholarly research on the relationship between social media and social movements is: can social media create the tipping point that leads to a movement's success? Claim makers for this central question divide into camps of optimism, pessimism, and ambivalence, although some may land in multiple positions as they explore the topic through a range of research questions. Optimistic approaches argue either that the revolution can be tweeted or that it already has been. These writers and scholars show great faith in the revolutionary power of social media. Pessimistic approaches argue either that social media is incapable of ushering in a social revolution or even that social media hinders positive social change. Ultimately, we argue for the ambivalent approach, which weighs the evidence on balance and recognizes that change is both difficult and possible. However, social media is an unfolding terrain in terms of both the technology it relies upon and the ways that citizens, corporations, and states make use of it.

# Techno-optimism

Techno-optimism refers to those approaches that emphasize the potential of social media technologies to solve social problems. The scale of such problems varies greatly – including both global issues such as climate change as well as problems that are, proportionally, more modest, such as fostering engagement in the democratic process. Techno-optimists do not fail to

acknowledge the challenges faced by social media but do find, in such emerging technologies, evidence for new social change and optimism.

One of the strongest statements in favor of the power of social media for social movements is found in Manual Castells's Networks of Outrage and Hope: Social Movements in the Internet Age (2012). For Castells, the use of Twitter and Facebook as tools for political upheaval serves as confirmation of theoretical principles that he presents in his three volume set The Information Age: Economy, Society, and Culture (1996; 1997; 1998) and in his later work Communication Power (2009). Castells argues that as the information age develops, which he alternately refers to as network society or informational society, the real power is now in the hands of programmers and switchers (those who make connections). He is referring to both technology professionals and to those who metaphorically act as programmers and switchers for social institutions and social movements. Castells's theory of the network society from The Information Age not only predates the advent of social media but also predicts it. In a society based on information and networking, social media is the logical form of communication. However, even Castells insists on the need for real-world connection and collaboration for social movements, particularly in the form of what he calls "occupied space," referring to the squares and parks in which protesters gather, organize, and take action. Nevertheless, Castells is an optimist about the transformational power that social movements have when cyber activism leads to and complements street activism.

Castells connects the dots between a series of social movements that occurred roughly between 2008 and 2011: Iceland's Kitchenware Revolution, Tunisia's Jasmine Revolution, Egypt's Tahrir Square Protests and actions in many other countries as part of the Arab Spring, the Spanish Indignados Movement, and Occupy Wall Street and actions in many other cities (and on college campuses) as part of the Occupy movement. Later protests claimed to be inspired by earlier ones and also claimed to learn from their most successful techniques. Castells argues that these movements share a set of characteristics that helps to explain their success. He says they have a kind of multimodal networking, which encompasses online and offline networks. They consistently choose to occupy urban space, but in a way that is deeply connected to cyber-spatial networking. He calls the connection between urban space and cyber space a space of autonomy. He claims that these new social movements spontaneously generate in moments of indignation and spread virally, both online and off. Perhaps most importantly, Castells says that these new network society social movements are leaderless, because of both the distrust that the movements have for power and because of the ways that network society has flattened organizational hierarchies.

The question of leaderless movements has shaped some of the recent research on social media. In their analysis of revolutions in Tunisia and Egypt, Lotan et al. (2011) examine information flows on Twitter – tweets and retweets that pass on information from initial source posters – during the Tunisian and Egyptian uprisings that were part of the Arab Spring. They examine the role of different types of information actors, including media organizations, journalists, bloggers, and activists. "In both datasets [Egypt and Tunisia], journalists and activists serve primarily as key information sources, while bloggers and activists are more likely to retweet content and, thus, serve as key information routers" (1390). They find that individuals (including journalists and bloggers) are more successful in seeding information – starting a flow – than organizations, perhaps because individuals are more trusted than the organizations they work for. But they also found important differences in the information flows of Egypt and Tunisia, suggesting that culture and context also shape the pattern of these flows. Their main conclusion is that social media really has transformed journalism into a conversation across different types of actors, and that activists and bloggers are significant producers of information, in addition to journalists.

In a related study, Tufekci and Wilson (2012) examined how the Internet, and new forms of social media in particular, contributed to uprisings during the Arab Spring. To this end, they conducted a survey of participants in Egypt's Tahrir Square protests. The surveys were given to participants during January and February, 2011. Tufekci and Wilson were specifically interested in the following: Did social media use shape how participants learned, planned, or documented the protests? The interviews were conducted in the midst of the events. The initial strategy of interviewing by approaching people in the open street was abandoned after only 100 interviews, due to respondent concerns in light of the sensitivity of the political climate. A snowball sampling approach was adopted instead, in which participants were found through referrals; this resulted in a total of 1200 interviews. This dataset likely offers the largest available sample of protestors and thus affords a unique insight into this particular event. Participants reported that social media played a central role in shaping the decisions that individuals made regarding whether to attend protests, the logistics of the events, and the likelihood of success. The social networking site Facebook was identified as a particularly useful tool in this regard. Regarding social media, Tufekci and Wilson write, "About half had a Facebook profile (52%) and almost everyone who had one used it for communicating about the protests (51%). Twitter was used in general by 16% of the respondents, and for communicating about the protests by 13%" (369). In short, Tufekci and Wilson provide compelling evidence that supports the contention that social media, specifically Facebook and Twitter, played a vital role in the protests leading up to the resignation of the Egyptian President Mubarak.

The potential for social media to galvanize activism is a key focus for techno-optimists, of which Clay Shirky (2008) is one of the leading thinkers. Shirky is most excited about the power of new technology to foster speedy assembly around causes and concerns. He argues that the key issue is not the technology itself but the change in human behavior that the technology enables. Using both sociology and psychology, Shirky claims that humans avoid coordinated action because of the fear that others will freeload off of their altruism. But that fear of action shifts when the speed, costs, and risks of action are reduced and when there are trustworthy safeguards in place that govern the actions of others and reduce the risk of freeloading. Shirky describes collective action as the top rung of a three-rung ladder of group activity, with each successive rung harder to reach than the last. The rungs, in order, are "sharing, cooperation, and collective action" (49). Social media effectively brings the rungs closer together and makes the ladder easier to climb. Shirky opens with a story about a woman and her friend using technology to find her lost phone and then using that same technology to shame the person who refused to return it. They attracted supporters, media attention, and Internet sleuths as their cause went viral. Eventually, the phone was returned, and the young woman who stole it was arrested, all thanks to the power of social media. That kind of success story would not have been possible prior to the advent of social media. But again, it isn't simply about the power of the tools but rather the change in human social behavior that has taught us to believe that we can act and make a difference.

While Shirky's techno-optimism is illustrated through the use of a micro-level interaction, others emphasize large-scale processes. In fact, proponents of social media often claim that it can change the world. In their book *The Dragonfly Effect*, Jennifer Aaker and Andy Smith (2010), a social psychologist at Stanford Business School and marketing consultant respectively argue that social media offers a powerful set of tools that can help users – especially businesses – effect social change. Their book is full of anecdotes from the business world, as well as a mix of data from both marketing and social psychology – what we might call decision neuroscience or the science of how people decide how they will spend their money and buy products – but it also reads like a motivational self-help text. Aaker and Smith present what they call the dragonfly model, based on the fact that dragonflies are able to fly in any direction through the

coordinated action of four wings. In their model, the four wings of social action through social media are focus, grabbing attention, engagement, and taking action.

In another instance of examining large-scale processes, sociologist and communications professor Philip N. Howard (2015) takes a decidedly cyber-utopian stance, hopeful that the "Internet of things" will usher in a new world-historical period of stability that he calls the *pax technica*, referencing comparable eras like the *pax Romana* and the *pax Britannica*. Howard recognizes, with other scholars, that social media and other technologies allow for greater surveillance, but he believes this tool will work in service to citizens and level the playing field against state and corporate powers. Howard acknowledges that the technology may in fact be harnessed for less democratic possibilities, but his prediction is that it will actually foster peace and stability. "The Internet of things could be the most effective mass surveillance infrastructure we've ever built. It is also a final chance to purposefully integrate new devices into institutional arrangements we might all like" (xv). Howard calls this new period an "empire of connected things" (1). Howard argues that social media offer three important tools during periods of upheaval: (i) allowing us to check on our loved ones, (ii) giving us a space to deliberate and take positions, and (iii) letting us document social and political events. Regarding the political use of social media, Howard argues:

Politics used to be what happened whenever one person or organization tried to represent another person or organization. Devices will be doing much of that representative work in the years ahead, and social scientists need to stay relevant by expanding their tool kits and amending their analytical frames. From now on, politics is what happens when your devices represent you in the pax technica (257).

Comparing how various states have handled the rise of the information age, Howard argues that the states that have most invested in information infrastructures have had the most prosperity, although he acknowledges China as a special case that has built its own infrastructure that it can more easily monitor and censor.

# Techno-pessimism

Techno-pessimism characterizes the work of those who consider the promises of social media to be hyperbolic and superficial. The changes may in some instances produce new relationships of power, which is of interest even to techno-pessimists, though the summary diagnosis remains one of suspicion. Techno-pessimists basically see in social media an impressive patina that in actuality does little to fundamentally transform the way that human beings relate to each other in the real world.

Malcolm Gladwell, a journalist known for his emphasis on social science perspectives, reviewed *The Dragonfly Effect* for *The New Yorker* (Gladwell 2010), taking the stance that Aaker and Smith are naïve and overly optimistic. He compares social media-based social movements to the lunch counter protests of the 1960s civil rights movement. The civil rights movement succeeded because of what Gladwell calls "high-risk activism" (44) motivated by close relationships. Groups of people who were deeply connected to each other made great sacrifices in the interest of the cause. In contrast to this high risk activism, he expresses the position of many techno-pessimists when he labels social media activism as simply "small change" (42).

Another work discussed in Gladwell's review is Evgeny Morozov's *The Net Delusion: The Dark Side of Internet Freedom* (2011). Morozov argues that the world has been overwhelmed by cyber-utopians who ignore or exaggerate the benefits of new technology with little use of evidence and a blind-eye to history. To be sure, Morozov acknowledges that the Internet, social media, and social networking can be a powerful set of tools, but Morozov raises important questions about who makes the tools, who controls the tools, and who has the most access to the

tools. Morozov tells a rich set of stories from his own travels around the world and his studies of world history to demonstrate that powerful new tools are usually most effective in the hands of authoritarian regimes. The Internet, he points out, offers excellent tools for authoritarian governments – including ones that claim to be democratic – to track, infiltrate, and undermine counter political movements. "Technologies that were supposed to empower the individual strengthened the dominance of giant corporations, while technologies that were supposed to boost democratic participation produced a population of couch potatoes" (276). The technologies that he is referring to range from the printing press to television, and from the Internet to social media. His conclusion: "[T]he only way to make the Internet deliver on its emancipatory potential is to embrace both cyber-realism and cyber-agnosticism" (339). By cyber-realism, he is suggesting that those traditional social, political, and economic arrangements remain the meaningful catalyst for social movements and not the new tools of social media. Cyber-agnosticism, in contrast, refers to a refusal to take a for-or-against position on new Internet-based technologies – it protests that such a concept is itself often too broad to be meaningful.

Navid Hassanpour (2014) demonstrates a techno-pessimistic position as well when he finds that media disruptions during political protests, including blackouts of social media platforms like Twitter and Facebook, can actually increase participation as people seek alternative sources of information. Hassapour, however, acknowledges some ambiguity in that social media can still have revolutionary potential. The issue is not the lack of information, but rather the disruption of information. The more access people have to the flow of information, the more they will be disgruntled by its disruption. Christian Christensen (2011) highlights the fact that social media can be just as useful for the powerful political leaders who are being protested against as it is for the protestors themselves. He cites the use of social media policing by leaders in Iran during the protests of 2009 as an example. He concludes that we should not place too much stock in the "virtues" of social media.

These cyber-realist approaches strike Gladwell as the best lens for understanding the relationship between technology and activism. Gladwell's review invokes the work of sociologist Mark Granovetter who has demonstrated the important role that weak ties can play in getting a job (Granovetter 1973; 1974). Gladwell argues that the same principle does not apply to social movements because "weak ties seldom lead to high-risk activism" (45). In response to Aaker and Smith's claim that social media can increase motivation for activism, Gladwell says "that's not true. Social networks are effective at increasing *participation*—by lessening the level of motivation that participation requires" (46). In other words, social media encourages people to participate by posting and liking, not by going into the streets or sitting down at the lunch counter.

#### Techno-ambivalence

All researchers acknowledge some degree of ambiguity regarding social media. It is, after all, an area attracting attention due in part to its current state of ongoing negotiation. Technoambivalence researchers, however, are those who fall most explicitly in the middle of the spectrum. Techno-ambivalence is characterized by the willingness to make claims of *newness*, and hence possibility, but to position such claims within a serious assessment of the limitations, sometimes deemed quite critical, of such technology.

Dhiraj Murthy's book *Twitter: Social Communication in the Digital Age* (2013) invokes the work of Granovetter, just as Gladwell does, but takes a more favorable view on the role of weak ties in social movements. Although he begins with a discussion of Occupy Wall Street, the real focus of his examination of social media's role in activism is on Arab Spring, specifically activism in Cairo, Egypt, in 2011. Murthy argues against taking too strict or too binary of a position on

the power of Twitter. Twitter was neither irrelevant nor did it cause the revolution. Rather, it played several practical roles.

Twitter served three purposes for Egyptian activists: 1) a real-time information stream maintained by Egyptian citizen journalists (for Egyptian consumption); 2) a means for local information and updates to reach an international audience (including international journalists); and 3) a means to organize disparate activist groups on the ground. Perhaps its greatest impact was in the second purpose and its least in the third purpose (112).

Although Murthy argues that Twitter played important roles in the Cairo protests, which resulted in the resignation and eventual trial of President Hosni Mubarak, he nevertheless asserts that the activity on the streets of Cairo is what truly drove the revolution, while Twitter functioned more as a useful resource.

Similarly, in a qualitative ethnographic analysis of how political movements use social media, Pablo Gerbaudo's Tweets and the Streets: Social Media and Contemporary Activism (2012) argues for a modest approach to the power of social media for social movements. Gerbaudo uses case studies of the Cairo uprisings, the Spanish Indignados movement, and Occupy Wall Street to examine what he calls a "choreography of collective action" (4), particularly a choreography of organizing and mobilizing. He attempts to provide a middle ground between techno-optimism and techno-pessimism. Against Castells's notion that the information age is driven by leaderless networks, Gerbaudo focuses instead on how technology can be used by leaders to choreograph action. Regarding the political movement in Egypt, he concludes: "Social media played a crucial role in the Egyptian revolution, but not an exhaustive one" (74). He also sees social media as crucial to the Spanish Indignados. However, in comparison to Egypt and Spain, he argues that the Occupy movement shows an underuse of social media for choreography purposes, and he suggests that the failure to choreograph action may explain the comparative lack of success of Occupy.

Sherif H. Kamel (2014) uses a similarly ambivalent approach as he illuminates the role played by social media in the socio-political transformation of Egypt. While platforms such as Twitter and Facebook were utilized during grassroots mobilization, Kamel shows that social media played a complicated and in some ways peripheral role in the unfolding of events. While social media platforms were, indeed, instrumental as a tool of communication, and even key to the formation of protests, the Tahrir Square demonstrations resulted from collective human passion. Beginning in the 1980s, the Egyptian government identified information and communication technology (ICT) as a core factor in economic development and modernization. As such, the government invested heavily in providing the country with ICT tool's, aiming to put a "PC in every home" (79). Kamel contends that this move inadvertently laid the groundwork for the sophisticated use of social media years later. When the social upheaval of 2011 began, many citizens irrespective of their economic position were able to access and use social media to communicate and organize. Crucially, however, Kamel emphasizes that change emanates from people, not the devices or systems that link them. "Egypt's uprising was a function of people, passion and not of any particular communication technology, social media tool or application" (78).

Turning from Arab Spring to the Occupy movement, Anastasia Kavada (2015) investigates the processes through which Occupy developed into a unified actor and the role of social media in this development. She shows that social media platforms provided a key communication method by which identity membership was formed and maintained. For Kavada, a key point is the dynamic and open-ended process through which collective identity is created, in contrast to the fixed and product-like quality described by others. Kavada gathered her data through 75

in-depth interviews with Occupy members in London, New York, Boston, and Seattle. Both core and periphery activists were sought out for interviews. Kavada found that social media played an important role in shaping the movement. The movement largely succeeded in rejecting clear spokespeople or leadership and instead garnered structure from the identity that gradually emerged through communication on social media. While this was not without sites of conflict in which core activists used administration privileges to speak on behalf of the collective, Occupy maintained its emphasis on inclusion and de-centralization.

Daniel Kreiss and Zeynep Tufekci (2013) examine this de-centralization and its relationship to the structure of Occupy. The Occupy movement relied on individual self-proclaimed identity with the movement and the promotion of self-expression, rather than rely on formal membership hierarchies and adherence to official goals. While this imbued the movement with a certain legitimacy - some saw the movement as symbolically representative of the street – it also allowed for other organizations to appropriate the symbolic meaning of the movement for its own uses. For instance, members of the Democratic Party have cited the movement as giving voice to a spirit that it shares kinship with. However, the Occupy movement, in turn, was not able to respond in a unified fashion to a political party that the movement would almost certainly have identified as belonging to the established system it sought to undermine. Further, through interviews conducted with activists, Kreiss and Tufekci found that even mundane problems that arose from the physical demonstrations in public spaces could not be easily addressed. For instance, noise complaints of a drum-circle almost closed down the Zuccotti Park protest as the leaderless movement had difficultly responding to the complaint. Kreiss and Tufekci warn of the limitations of Occupy's de-centralized nature. While they are optimistic that social media allows for the powerful collaboration of otherwise disjointed individuals by way of an emerging collective identity, the de-centralized nature of the Occupy movement did not make the movement well suited for engaging with the routine workings of political systems.

Thomas Poell (2014) also illustrates the ambiguous nature of social media when he examines how its large-scale use in new activism influences the communication of participants. The Toronto Community Mobilization Network (TCMN) is used as a case study, as it organized the protests during the 2010 G-20 summit meetings in Toronto. TCMN explicitly requested that followers use social media such as Twitter, YouTube, and Flickr to broadcast the news as they experienced events on the ground and to use "#g20report" to tag their reports. Poell maintains that while social media may provide efficient communication, it exists only due to particular technological architectures and related business models. This must also be accounted for when examining the communication that takes place within social media. Poell begins by using a hyperlink analysis. This involves collecting all of the reports occurring on social media, identified through use of the #g20report tag. Through a system of cross-referencing, a map of the techno-ecological web was created. For instance, Twitter was shown to have played an important role in focusing attention on real-time events. YouTube, in contrast, did not play an important role as a referencing platform, but did function as a host of relevant material to which other sites referred. The particular architectural structures of various social media platforms and their related business models play an active role in shaping the communication that occurs within them. One key observation Poell offers is the incredibly visual nature of the material hosted on social media platforms. This is considered an ambiguous development, as the content can sometimes function as mere spectacle. Its visual nature, however, and the ability for events to be communicated in real-time do allow for a powerful expression. A profound transformation is occurring, Poell suggests, though more systematic examination is needed to sufficiently understand its character.

## Discussion

We take the position that social media must be approached through the lens of technoambivalence. There are three major flaws of techno-optimism: (i) it overstates the newness of social media; (ii) it jumps to prediction without evidence; and (iii) it underestimates the capacity of existing hegemonies to adapt to technology. Techno-optimism holds a naïve excitement with the seeming novelty of social media. Although the term "social media" refers to a specific set and type of communication platforms that does appear at a specific moment in history, the name refers to a quality that actually characterizes all media: social. As sociologist Clayton Childress says: "All media are social" (Childress 2012, 55). Change is inherent to the concept of technology, but a change in the tools does not automatically yield a change in the output. Whether social media can truly yield social transformation will depend upon the accumulation of evidence over time, and the weighing of that evidence against counter-evidence. Finally, transformative potential is often reduced over time as hegemonic forces like capitalism, class, race, and gender adapt to the technologies and re-appropriate that potential. The World Wide Web was also once seen as a revolutionary new communication space, in part because it seemed to allow communication that was un-mediated by corporations. Yet now, just over two decades since its arrival, the web is primarily a commercial medium.

Techno-pessimism has three major flaws: (i) it falsely romanticizes life before social media; (ii) it underestimates the agency of social media users to create new ways of utilizing these communication tools; and (iii) it overstates the negative potential of social media, obscuring the balancing effects of positive outcomes. Techno-pessimists are like the cranky uncle always harkening back to the old days. Techno-pessimists construct and then assail a straw man version of social media that has us completely disengaged from each other and mistaking the "like" button for a revolution. They are so focused on massive hegemonic forces that they do not allow for any agency on the part of social media users, despite frequent moments when activists have surprised us with the powerful ways they engage Twitter, Facebook, and other platforms. The Black Lives Matter movement is an excellent example of social media users collecting and organizing in powerful ways. These moments of agency should serve to balance other evidence of potential harmful impacts from social media, such as increased surveillance by both the government and corporations.

Techno-ambivalence balances the flaws of techno-optimism and techno-pessimism. It refuses to romanticize either the past or the future, and instead awaits the accumulation of evidence of the actual outcomes of social media and its impact on activism. Techno-ambivalence recognizes both the power of existing hegemonies and the agency of individual actors. Finally, it allows for the possibility of social change without presuming it to be an automatic outcome of new technology.

## Conclusion

"The revolution will be tweeted" is a rhetorically forceful phrase, to borrow a concept from the media sociologist Michael Schudson (1989). The phrase invokes Gil Scott-Heron's 1970 track "The Revolution will not be Televised" which took the strong stance that commercial corporate culture cannot be the source of powerful social change. Technically, that's an open research question. Can commercial corporate culture trigger social change or even a social revolution? Heron's take is that systems of inequality are inextricably linked to the capitalist mode of production in which television is embedded. Can it be any different for social media? Twitter, Facebook, Google, and most other social media platforms are the assets of large corporations run by homogeneous executives and boards. Can the products of such capitalist enterprise produce the seeds of change? The notion that the revolution can be tweeted took hold in media debates about the role of Twitter and Facebook in uprisings around the world. A 2011 book by the journalist Chris Stokel-Walker asked *The Revolution will be Tweeted*? The magazine *Foreign Policy* took an optimistic stance with a June 20, 2011, headline "The Revolution will be Tweeted" (Hounshell 2011). And Reuters declared triumphantly "In 2011, The Revolution was Tweeted" (Freeland 2011).

The best empirical evidence is that revolutionary movements today will certainly include social media, and may even need it, but will also need much more than that. Protests in the streets are no less important today than they have been for movements in the past, and it may actually be harder to get people into the streets in an age of social media. Moreover, the targets of the revolutionary movements – governments, military, and police – are also on social media and using it very effectively as a tool for surveillance.

# **Short Biographies**

Dustin Kidd is Associate Professor of Sociology at Temple University in Philadelphia. His research examines how culture, politics, and economics impact creative activity. He is the author of Legislating Creativity: The Intersections of Art & Politics (Routledge 2010) and Pop Culture Freaks: Identity, Mass Media, and Society (Westview 2014). He has published articles in a number of sociology and inter-disciplinary journals including The Journal of Popular Culture; Research in Political Sociology; AfterImage; The Hedgehog Review; The Journal of Arts Management, Law & Society, and Contexts. He is currently working on a book about issues of identity in social media.

Keith McIntosh is a doctoral student in Sociology at Temple University. His current research interests include new media, advertising, social theory and the art world. He received an MA in Social Research from the University of York (UK), where he studied the uses of advertising in the urban environment. He has experience as a researcher in the non-profit and commercial sectors.

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