The Supply of Conspiracy Theories in State-Controlled Media

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Abstract

When, and why, do conspiracy theories appear in state-controlled media? We argue that regime type and political threats combine to explain the supply of conspiracy theories by the state. Regimes under threat can stave off dissent by promoting conspiracy theories, but this can backfire and damage regime credibility. Given the same level of threat, more democratic governments supply fewer conspiracy theories than autocrats because they are more sensitive to these reputation costs and because they depend on larger coalitions to govern. We test this argument by comprehensively examining conspiracy theories in Egypt’s primary state-controlled newspaper and its leading independent rival between 2005 and 2018. The official newspaper responds to threatening events by publishing more conspiracy theories than its independent counterpart. However, this relationship is moderated by changes in regime: the state-controlled paper promoted fewer conspiracy theories during periods of low threat and greater democracy.

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1 Introduction

On August 14th, 2013, security forces killed approximately 1,000 demonstrators protesting the ouster of Egypt’s first democratically-elected President, Mohamed Morsi, in Cairo’s Raba’a square. Thirteen days later, the state-run newspaper, *Al-Ahram*, ran a front-page headline alleging a “New Conspiracy to Undermine Stability: Politicians, Journalists, and Businessmen Involved.”

Citing unnamed official sources, the article outlined a plot organized by unlikely conspirators—United States Ambassador to Egypt, Anne Peterson, and Muslim Brotherhood leader, Khayrat al-Shater—to smuggle “300 armed men from Gaza to Egypt through tunnels, to spread chaos throughout Cairo and storm numerous prisons.” This presents a puzzle: Why would the most prominent state-controlled newspaper in Egypt promote a conspiracy theory certain to increase diplomatic tensions with the United States during such a critical period?

In this paper, we offer theory and evidence to explain the supply of conspiracy theories in official news media. A surge of recent scholarship examines the politics of conspiracy theories, mostly using surveys and experiments, to understand individual demand for conspiracy theories. This “demand-side” literature emphasizes that conspiracy theories serve as heuristics to cope with uncertainty (Oliver and Wood, 2014) and that psychological traits such as mistrust, belief in unseen forces, and propensity to see patterns in randomness largely explain individuals’ predisposition to conspiricism (Radnitz and Underwood, 2017; van Prooijen, Douglas and De Inocencio, 2018). However, it is unlikely that these common psychological traits fully explain variation in the prevalence of conspiracy theories across political contexts. We argue that variation in the supply of conspiracy theories by various actors, including the state, is essential to understand why conspiracy theories are more salient in some places than others.

The supply of political misinformation has also received scholarly attention (Peisakhin and Rozenas, 2018; Rozenas and Stukal, 2019), but there is less consensus about why states promote conspiracy theories. We know that some regimes supply more conspiracy theories than others, but scholars disagree about whether this is best explained by the psychology of political leaders (Gray, 2010b), political culture (Hofstader, 1965), autocratic political institutions (Gray, 2010a), or diversionary incentives (Alrababa’h and Blaydes, 2020). Many of these studies rely on anecdotal examination of elaborate, pervasive, or implausi-

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2We use the terms “state-controlled” and “official” interchangeably to describe media outlets under the direct control of the state.
ble conspiracy theories. While this approach may have advantages, it does not allow systematic analysis of changes in state supply over time. A few recent studies show the promise of systematically analyzing trends in comprehensive corpora from state-controlled media (Rozenas and Stukal, 2019; Alrababa’h and Blaydes, 2020), and we follow their lead.

We start from the insight that understanding conspiracy theories in official media may require systematic comparison with independent media. The presence of conspiracy theories in state-controlled media outlets may not always be evidence of regime manipulation; they may be responding to factors that lead all media outlets to produce conspiratorial content. Analyzing official media in isolation makes it challenging to infer whether conspiracy theories appear because of regime manipulation or for other reasons.

To resolve this inferential challenge, we compare the supply of conspiracy theories in official and independent media. By controlling for conspiracy theory supply in independent media, we estimate government oversupply: when official media produces conspiracy theorizing in excess of the independent media under the same political conditions. Our concept of oversupply suggests a mirror-image possibility that the literature has largely ignored: that states can also undersupply conspiracy theories relative to independent media for political reasons. Our approach exploits the fact that, even under authoritarianism, private media outlets enjoy relatively more independence than their official counterparts. We argue that systematic differences between private and official media outlets are indicative of oversupply or undersupply of conspiracy theories.

We develop theory and evidence about the oversupply and undersupply of conspiracy theories in state-controlled media. Like previous scholars, we argue that the state supply of conspiracy theories is political. We build on the idea that autocratic governments face incentives to circulate conspiracy theories to divert from poor performance (Rozenas and Stukal, 2019) and threat (Alrababa’h and Blaydes, 2020). However, we incorporate recent findings showing that state propaganda and information manipulation can backfire in the short-term (Hobbs and Roberts, 2018) and degrade public perceptions and trust in the long-term (Huang, 2018). We argue that these side-effects raise the cost of promoting conspiracy theories for states. In the absence of threats, the costs of conspiracy theory promotion are likely to outweigh the benefits, leading official media to undersupply conspiracy theories relative to independent media. However, as threats increase

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3Armbrust’s ethnography of post-revolution Egypt suggests that conspiracy theories are important in Egypt, but is not meant to provide a general theory about the supply of conspiracy theories (Armbrust, 2019, Chapter 9).
against the state, regime elites are likely to oversupply conspiracy theories, prioritizing short-term gains over potential long-term costs. Governments that feel a high baseline level of threat—from past experience or from observing the experience of prior regimes—are more likely to turn to conspiracy promotion when threatened. Governments that feel a relatively low baseline level of threat should be slower to switch from undersupply to oversupply.

We test these arguments by examining state supply of conspiracy theories in Egypt between 1998 and 2018. We collect all of the articles in Egypt’s main state-controlled newspaper, *Al-Ahram*, and compare the prevalence, timing, and content of conspiracy theories to Egypt’s most prominent independent newspaper, *Al-Masry Al-Youm*. Identifying conspiracy theories in over one million newspaper articles is a formidable challenge that we overcome by combining qualitative coding with automated text analysis methods (Lucas et al., 2015).

Dramatic, unexpected developments in Egyptian politics over the last two decades offer an opportunity to estimate the effects of political threat on the state supply of conspiracy theories using observational data. We cannot experimentally manipulate Egypt’s regime changes or threats, but events in Egypt have proven unpredictable to both its rulers and outside observers, giving us some confidence that events are driving conspiracy theories and not the reverse. Still, we acknowledge that our results rely on far stronger assumptions than in experimental studies. Readers who are skeptical about our causal interpretation should nevertheless be interested in our comprehensive description of the conspiracy theories that the Egyptian government has promoted through its official newspaper over the last twenty years.

We find that the state-controlled newspaper undersupplies conspiracy theories relative to the independent newspaper when regime stability is not threatened. As destabilizing events increase, the regime begins to oversupply conspiracy theories. The degree of oversupply varies by administration—most of the state oversupply of conspiracy theories in our data has occurred under Egypt’s current president, Abdel Fatah al-Sisi. By contrast, the autocratic government of Hosni Mubarak undersupplied conspiracy theories most of the time, supporting our argument that even autocrats are likely to undersupply conspiracy theories when they face no appreciable threats because of the high reputational costs of conspiracy promotion.

After examining the quantity of conspiracy theories that the state supplies, we turn to examining them qualitatively. We use nested analysis (Lieberman, 2005), sampling thirty days worth of oversupplied conspir-
acy theories for close analysis based on the predictions of our regression model. We find that conspiracies
in the official newspaper rarely identify specific perpetrators, victims, or incidents, and when they do, they
are often only tenuously connected to recent events. Rather, these conspiracies seem designed to increase a
sense of threat and foreboding, portraying the state as the only defense against chaos and division sown by
nefarious enemies, mostly unnamed, outside and inside Egypt.

Beyond Egypt, our theory offers a possible explanation for the supply of conspiracy theories by other
states, both autocratic and democratic. Our approach opens new possibilities for measuring and predicting
the supply of conspiracy theories by various actors in other countries and contexts.

2 Conspiracy Theories: Supply and Demand

Longstanding scholarly interest in conspiracy theories (Popper, 1945; Hofstadter, 1965), has been reinvig-
orated by recent studies of political misinformation (Berinsky, 2017) and “fake news” (Lazer et al., 2018).
One of the most foundational contributions of this recent literature is a definition of conspiracy theories that
we adopt directly from Oliver and Wood (2014). We consider conspiracy theories to be a form of political
discourse with three key features: (1) a propensity to “locate the source of unusual social and political phe-
nomena in unseen, intentional, and malevolent forces,” (2) a propensity to interpret events “in terms of a
Manichean struggle between good and evil,” and (3) the implication that “mainstream accounts of political
events are a ruse” (953).

Scholars in a range of disciplines, including political science and political psychology (Goertzel, 1994;
Wood, 2016), have studied the causes and effects of individual belief in conspiracy theories using surveys
and experiments. Some focus on individual characteristics that make some people more or less receptive
to conspiracy theories (Wood, Douglas and Sutton, 2012), while others examine the impact of conspiracy
theories on beliefs and attitudes (Dixon and Jones, 2015) or behavior (Einstein and Glick, 2014).

Together, these studies suggest that some individuals are attracted to conspiracy theories for psycho-
logical reasons. There is still debate about the individual traits that correlate with a greater receptiveness
to conspiracy theories, but psychological traits (Radnitz and Underwood, 2017; van Prooijen, Douglas and
De Inocencio, 2018), partisanship (Enders, Smallpage and Lupton, 2020; Ryan and Aziz, 2021), and gender
(Bruder et al., 2013; Cassese, Farhart and Miller, 2020) feature prominently in the literature. Despite dis-
agreements, scholars generally accept that conspiracy theories provide a mechanism for establishing a sense of order and purpose in the face of complex events that are difficult to understand (Oliver and Wood, 2014).

The Demand for Conspiracy Theories

Prior scholarship establishes that belief in conspiracy theories is widespread. According to survey results reported by Oliver and Wood (2014), “half of the American public consistently endorses at least one conspiracy theory.” Egypt, the country we study, is no exception. Nyhan and Zeitzoff (2018) find that “adherence to conspiracy theories is widespread” in their sample of 2,015 respondents in Egypt and Saudi Arabia, with more than 80 percent of respondents believing at least two conspiracy theories. Given their popularity, one common explanation for the prevalence of conspiracy theories in the region is that the supply of conspiracy theories in Middle East news media is simply a function of demand. If Arabs, or Muslims, or Middle Easterners are particularly prone to conspiracy theorizing, the story goes, then it is no surprise to find conspiracy theories widely circulating in the press.

We see scant evidence for the claim that Middle Eastern culture is particularly prone to conspiricism. Belief in conspiracy theories is high in some countries in the region (Bruder et al., 2013; Nyhan and Zeitzoff, 2018), but it is also high elsewhere (Oliver and Wood, 2014). We expect that the supply of conspiracy theories in the Middle East is not just meeting cultural demand, but is instead shaped by politics.

The Supply of Conspiracy Theories

The surge in scholarship on conspiracy theories has focused primarily on demand, but important studies also examine their supply, especially by states promoting misinformation to their own citizens. The literature broadly agrees that regime type matters; autocratic governments are more likely to manipulate the media environment generally (Black, 2008; Peterson, 2011), and to use state-controlled media to promote propaganda (Peisakhin and Rozenas, 2018; Rozenas and Stukal, 2019). Following Gray (2010a, Chapter 4), we organize our discussion around three main reasons for state supply of conspiracy theories: genuine belief, national narratives, and diversion.

Some heads of state genuinely believe they are being conspired against (Gray, 2010b, 32). In the Middle East, the long list of leaders who have lost power at the hands of foreign and domestic conspirators suggests that this belief is not irrational. Autocrats may push official media to allege the conspiracies they fear to
justify policies aimed at stopping them, especially if these policies are unpopular, repressive, or violent.

Alternatively, regimes might promote conspiracy theories as a way of crafting national narratives that enhance the state’s symbolic power (Gray, 2010a, 133-134). For example, (Yablokov, 2015) argues that Russia’s media conglomerate, Russia Today, is a tool of public diplomacy used to convince audiences of anti-Western and pro-Russian ideas. State-promoted conspiracy theories do not need to be convincing in order sustain symbolic state power. Wedeen (2019) argues that the Syrian government’s conspiracy theories are not convincing to regular Syrians but are instead symbols “specifying the form and content of civic obedience” (Wedeen, 2019, viii). Conspiracy theories can also communicate political priorities to elites, as well as the masses, and may assist coordination among political elites (Radnitz, 2016).

Finally, conspiracy theories may be a diversionary tactic: a cynical but rational response of autocrats when “calls for reform or democratization need to be silenced” (Gray, 2010a, 120, 130). Facing threatening circumstances at home, the state may promote conspiracy theories to explain its failings and direct rage away from the government and toward an alternative source, creating a “channel for popular disquiet or mistrust” (121). Examples abound. Rozenas and Stukal (2019) conclude from daily news reports on Russia’s largest state-owned television network that “bad news is not censored, but it is systematically blamed on external factors, whereas good news is systematically attributed to domestic politicians.” Alrababa’h and Blaydes (2020) examine the Syrian state-controlled media from 1987-2018 and show that diversionary claims of external threats are common: “the Assad regime long sought to focus public attention on forces external to the regime, consistent with a logic of diversionary threat” (2).

There is reason to believe that the diversionary rhetoric might work in the short term. Experimental evidence shows that support for the Egyptian government’s repressive policies increases when it accuses its opponents of conspiring to commit violence (Williamson and Malik, 2020). Even when diversionary conspiracy theories are not believed, they prop up authoritarian governments by sowing fear. Huang (2015) shows that Chinese students exposed to state propaganda are still dissatisfied with the government but, nevertheless, become unwilling to engage in dissent because they believe the regime is strong. Wedeen (2019, Chapter 4) similarly argues that the circulation of conspiracy theories during the 2011 Syrian uprising and civil war helped the regime by making citizens ambivalent. Conspiracy theories provided “evidence” to support contradictory narratives of the war, leaving open the possibility that the regime deserved support, or
at least passivity, even as repression mounted.

Autocratic diversion is the most prevalent explanation for conspiracy theory supply, but it faces theoretical challenges. Research suggests that even autocrats pay a price when they indulge in too much conspiracy promotion (Huang, 2018). Conspiracy theories may render citizens passive, but they also spread narratives that the regime is beset on all sides by powerful conspirators, which may undermine regime goals of projecting strength. And blaming foreign conspirators can backfire diplomatically; Alrababa’h and Blaydes (2020) find that anti-Israel propaganda appears less often on the front page of Syria’s state-controlled newspaper during periods where the Syrian government is in political negotiations with Israel.

In the remainder of this paper, we offer new theoretical arguments about the state supply of conspiracy theories and then test these arguments using an automated approach to detect conspiracy theories in newspaper text.

3 Threats and Regime Type Explain State Supply of Conspiracy Theories

Humans turn to conspiracy theories to make sense of the world, especially complex, destabilizing events. News organizations report on complex, destabilizing events in real time, so we expect that contentious political events are likely to increase the supply of conspiracy theories in the media even without government influence. Secretive or violent political events are especially likely to prompt conspiracy theories for at least two reasons. First, humans may have evolved to be interested in violent events because understanding them enhances individual and group survival. Second, contentious politics heighten anxiety and uncertainty. Journalists and readers might be more likely to entertain conspiracy theories during periods of violent unrest than they would during periods of relative calm. Thus, in the absence of state influence, we expect the media to supply more conspiracy theories when violent political events are more frequent for several reasons, including reporters’ genuine beliefs and perceived reader demand.

Journalists at state-controlled media outlets may also respond to complex and threatening events by increasing the supply of conspiracy without any pressure from the state. Journalists working for state-controlled media are subject to many of the same forces as their counterparts at independent outlets. They may have latitude about what appears in print because state-controlled media tend to be run bureaucratically, with layers of principals and agents making decisions that affect the ultimate composition of the official
media. Any conspiracy theories promoted by these journalists are technically being promoted by the state, by virtue of appearing in state-controlled media, but it is not safe to assume that all of them were intentionally placed by the regime. These “naturally occurring” conspiracy theories are not the main subject of our inquiry.

We seek to explain the conspiracy theories that are systematically supplied by state-controlled media at the behest of the regime. We pose a counterfactual question that isolates the role of the state: how would the quantity and quality of conspiracy theories in the state-controlled media be different if it were not state-controlled? This question leads us to introduce two concepts that are central to our argument: the oversupply and undersupply of conspiracy theories by state-controlled media. When the state-controlled media circulates more conspiracy theories than it would have if it were not state-controlled, we call this condition oversupply. Conversely, when the state-controlled media circulate fewer conspiracy theories than if it were not state-controlled, this is undersupply.

By introducing these two concepts, we reframe the problem of conspiracy theory supply. It is not sufficient to note that conspiracy theories become more prevalent in the state-controlled media during moments of crisis and attribute this increase to government influence. Rather, the literature should recognize that complex events that precipitate crisis naturally lead to more conspiracy theories in the media generally. The key question is when and why the state puts its thumb on the scale in one direction or the other.

Previous scholarship tends to suggest that governments, especially autocratic ones, typically oversupply conspiracy theories because of their effectiveness at neutralizing dissent. We argue that this approach ignores the significant costs of promoting conspiracy theories. After all, if the primary effect of spreading conspiracy theories is to increase support for government policies among some citizens and neutralize dissent among others, then why wouldn’t governments facing opposition just go back to the conspiracy theory well over and over again?

The upfront costs of promoting conspiracy theories are admittedly low. Conspiracy theories are easy to produce and easy to disseminate. They need not be logically coherent to be effective (Wood, Douglas and Sutton, 2012). The costs of promoting conspiracy theories become apparent once they begin to circulate. Conspiracy theories pollute the media commons and decrease human capital by cluttering the minds of media consumers (Wedeen, 2019). Although sowing confusion and paranoia among citizens can be a short-
term ploy to retain power, it is not a recipe for long-term national success. Conspiracy theories can also have unintended consequences—conspiracies intended to distract citizens may instead create a Streisand effect that draws more attention to events the government would prefer to conceal (Hobbs and Roberts, 2018). An over-reliance on conspiracy theories might make the government less able to communicate credibly about real threats and conspiracies. And outside of a state’s borders, promoting conspiracy theories invites international criticism and ridicule because it violates norms and complicates diplomatic relationships, especially with alleged foreign perpetrators of conspiracies (Alrababa’h and Blaydes, 2020).

We argue that the decision by a state to promote conspiracy theories weighs these benefits and costs. Threatening events are likely to raise the benefits and decrease the costs for many governments, both autocratic and democratic. Threatening events might lead the government to favor short-term gains over the long-term costs of promoting conspiracy theories. Additionally, the reputational costs of official conspiracism vary. As uncertainty grows in the wake of destabilizing events, official allegations that might have been previously implausible, may become more credible, or at least less ridiculous, to both domestic and international audiences.

Considering the benefits and costs of promoting conspiracy theories also provides an explanation for why democratic governments are less likely to promote conspiracy theories than autocracies. It is not that the benefits of conspiracism are necessarily lower for elected officials. Individual politicians in democracies may angle for the short-term gains of promoting conspiracy theories, especially if they are trying to win over a narrow base of supporters. Rather, institutions and norms increase the costs of official promotion of conspiracy theories in a democracy. This is because political elites in democracies face incentives to satisfy relatively large portions of their populations to stay in office, which encourages greater custodianship of public goods (Bueno de Mesquita et al., 2003), including media commons. In democracies with strong political parties, parties have longer time horizons than individual politicians, making them less likely to incur long-term reputation costs for short term gains. Politicians and bureaucrats in democracies also face greater costs for destroying the mediacommons and promoting misinformation because freedom of the press is seen as a democratic norm internationally.

Even though these costs are higher for democracies, there may be times when a democratically-elected government promotes conspiracy theories because it expects the benefits to outweigh the costs. In the
same spirit, we argue that not all autocratic governments are equally likely to promote conspiracy theories. Some autocrats exert considerable effort to project an image of control and assurance which dramatically increases the cost of officially promoting conspiracy theories. Additionally, some autocratic governments face more threats to their rule than others. These threats, or at least the perception of threat, raise the value of conspiracy theories, especially during a time of crisis, when the government has a strong incentive to neutralize challenges to their continued political power.

Thus, regime type explains broad tendencies in conspiracy theory supply, but is not a complete explanation by itself. We argue that in addition to regime type, the degree of threat perceived by the government will impact the supply of conspiracy theories by the government.

Government perception of threat from political events operate at two timescales. In the short term, contentious political events threaten the government’s ability to rule. In general, the types of political events that increase the threat a regime faces are oppositional or violent. Recent mass protests, terror attacks, strikes, etc, are likely to increase the level of threat perceived by ruling elites. This means that there is significant overlap in the types of events that are likely to inspire conspiracy theories by independent journalists and those that threaten a regime enough that it responds by increasing the supply of conspiracy theories in the official media.

Events also shape the threat perceptions of political leaders in the long term. When elites face relatively few political events that challenge their rule over long periods of time, they may conclude that threats to their continued rule are low. When elites face many threatening events over a long time period, or observe threats to prior leaders, they are more likely to assess their baseline level of threat to be high.

In summary, we expect that as threatening political events occur, conspiracy theories will increase in the news media generally. The presence of conspiracy theories in government media is not itself evidence that the government is promoting conspiracy theories. Conspiracy theories can appear for many reasons. Without inside information about the editorial process, journalists’ beliefs, and the inner operations of a government, it is difficult to determine which of these explanations most plausibly accounts for the publication of any specific conspiracy theory. Instead, we seek to explain patterns of oversupply and undersupply of conspiracy theories in the state-controlled media. Even when we cannot detect government influence in any single instance, we are confident that when a state-controlled newspaper is printing more conspiracy theories on
average than a comparable independent newspaper, this is evidence of government influence.

We expect that democracies will generally undersupply conspiracy theories relative to autocracies facing the same levels of long- and short-term threat. This is not to say that democracies will not respond to events with conspiracy theories, but rather that greater political accountability increases the costs of conspiracism. For a government attempting to retain office with good policies, promoting conspiracy theories is of limited use as a general strategy and has substantial risks. On the other hand, governments whose ability to retain office are threatened might be less concerned about the negative effects of promoting conspiracy theories in the long term and thus benefit more from the short term benefits of spreading any single conspiracy theory. This implies the reverse relationship too: we expect that autocracies will generally oversupply conspiracy theories relative to democracies facing the same levels of threat.

We expect to find variation in the promotion of conspiracy theories by autocracies. We expect that governments that feel relatively secure in the long-term will tend to undersupply conspiracy theories. Governments that feel threatened in the long-term will tend to oversupply conspiracy theories. This oversupply will manifest in two ways. First, the baseline supply of conspiracy theories by the state will be higher. Two, the oversupply will manifest in more short-term responsiveness to threatening events. In this expectation, we align with Rozenas and Stukal (2019) who finds that deflection in Russia’s state-controlled media “is used more intensely in politically sensitive times (elections and protests)” (982).

Regimes of all types will consider the costs of promoting conspiracy theories and reduce their conspiracy theory supply when these costs increase, all else staying equal. However, for governments that feel especially threatened in the long- and short-term, conspiracy theories may continue even when the cost to international cooperation is high, because increased threats make conspiracy theory promotion less costly in the short term.

While our theory predicts the quantity and timing of conspiracy theories, we have less to say about the content of these conspiracy theories. Previous studies suggest that governments might promote conspiracy theories with coherent content aimed to craft a narrative of events that promotes national cohesion Gray (2010a, 126). Alternatively, state-supplied conspiracy theories may be jumbles of incoherent content designed to divert attention from events that present the regime in an unflattering light (1999; 2020). Without a strong expectation about the content of the conspiracy theories that state-controlled media oversupplies,
we will examine them deductively to see whether they follow a pattern of coherent narrative building or incoherent distraction.

4 The Supply of Conspiracy Theories in Egypt, 1998-2018

We test these arguments by examining conspiracy theories in the largest state-controlled newspaper in Egypt between 1998 and 2018. We select Egypt for scientific and practical reasons. In order to test the effects of threat and regime type on state supply of conspiracy theories, we need variation in both key variables. During the time period we examine, Egypt experienced significant variation in both threat levels and regime type, including an unexpected and rapid period of democratization followed by an equally sudden return to autocracy. Egypt is also intrinsically important as the largest media market in the Arab world, and the home of some of the most important newspapers in the region. More practically, the digitization of key Egyptian newspapers facilitates our data collection and our familiarity with Egyptian politics enables us to analyze these materials quantitatively and qualitatively.

We measure the prevalence and content of conspiracy theories published by the main regime newspaper, *al-Ahram*, from 1998 to 2018. We focus on print media because it is stable over the twenty-year period we investigate and the lines of government influence are clear. Conspiracy theories also circulate on television and social media in contemporary Egypt (Armbrust, 2019, Chapter 9), but rapid changes to these platforms make it impossible to make meaningful comparisons across the multiple regime transitions of Egypt’s last twenty years. We leave an investigation of conspiracy theories in Egyptian social media for future research.

We use these data to estimate the degree to which the state-controlled newspaper under- or oversupplies conspiracy theories as the Egyptian government changes regime types and experiences varying levels of threat. Our concepts of under- and oversupply require a counterfactual estimate of how many conspiracy theories the state-controlled newspaper would have published if it were independent. This cannot be measured directly, so we estimate this counterfactual quantity using conspiracy theories published in Egypt’s main independent newspaper, *Al-Masry Al-Youm*. During the period we examine starting in 2005, these two newspapers produced 1,064,169 articles, which we analyze comprehensively. At a high level, our research strategy is to use a statistical text analysis model to detect conspiracy theories in each newspaper and then estimate models predicting the supply of conspiracy theories in each.
Al-Ahram and Al-Masry Al-Youm in the Egyptian Media Space

Al-Ahram is Egypt’s flagship newspaper. Founded in 1875, Al-Ahram was independent until 1960 when it was nationalized by Gamal Abdel Nasser. Its influence within Egypt was largely uncontested until the emergence of an independent newspaper, Al-Masry Al-Youm in 2004. We do not have reliable statistics on subscribers or circulation for either newspaper, but data from Google suggests that online searches for the newcomer exceeded searches for Al-Ahram by 2007. The relative ranking of these competitor papers has fluctuated since but both remain prominent: as of March 2021, Alexa.com rates Al-Masry Al-Youm as the 44th most popular website in Egypt while Al-Ahram is 31st.

Al-Masry Al-Youm is the most comparable independent alternative to Al-Ahram. Its independence derives from its financial backing by Salah Diab, a powerful businessman with a background in oil (Al-Azm, 2015). Still, it has faced some constraints in authoritarian Egypt. Government approval was required to establish the newspaper and anecdotal evidence suggests that Al-Masry Al-Youm has occasionally come under government pressure (Peterson, 2011). This pressure has only become more acute in the aftermath of the 2013 coup which brought Egypt’s current president Abdel Fatah al-Sisi to power. Still, Al-Masry Al-Youm is the most prominent independent newspaper in Egypt, and it has always been relatively more difficult for the state to pressure Al-Masry Al-Youm than Al-Ahram.

Detecting Conspiracy Theories in Arabic Newspaper Text

We collect all of Al-Ahram since 1998 and all of Al-Masry Al-Youm since 2005, up until 2018. During the years we analyze from 2005-2018, Al-Ahram published 826,765 articles and Al-Masry Al-Youm published 484,100. To comprehensively identify all of the conspiracy theories in these articles, we turn to a statistical methods for classifying text (Grimmer and Stewart, 2013), adapted for Arabic.

At a high level, our classification is a simple application of supervised learning: we labeled a small number of texts by hand and then train an algorithm to mimic the hand-coding. Our process was complicated by the fact that conspiracy theories are much rarer than prior studies relying on anecdotes suggested. We initially began coding a simple random sample of articles, but we stopped because the training set had so few conspiracy theories that subsequent classification algorithm would have failed. Instead, we turned to a

keyword approach because our reading revealed that articles promoting conspiracy theories are forthright, almost always employing some variant of the word “conspiracy.” We selected 18 key words that our initial reading revealed were frequently used to introduce conspiracy theories (forms of “conspiracy,” “plot,” “machinations,” “collude,” “collusion,” and “intrigue”) and concentrated our hand-coding efforts in the 32,956 articles containing these terms.

We sampled 1,500 articles containing our key words and hand-coded each paragraph; individual sentences proved too short and full articles were too wide-ranging. After developing coding rules during our own reading, we hired two native Arabic-speakers from North Africa to code each article, noting which contained conspiracy theories and, when mentioned, who the perpetrators and victims were. Our coders agreed 95.9% on which paragraphs contained conspiracy theories and we adjudicated discrepancies. We then use this training set to identify conspiracy theories in the remaining articles using a random forest classifier (Breiman, 2001) which we trained to predict the labels of the hand-coded set using the 1,990 most frequently occurring terms and indicator variables for the broad type of article: news, opinion, culture, or sports. We held out 10% of the hand-coded data to assess accuracy; we correctly identify conspiracy theory paragraphs 78% of the time, and correctly identify non-conspiracy theory paragraphs 99% of the time, for an overall accuracy of 97.5%. We then apply the trained random forest model to classify conspiracy theories in the remaining 449,297 paragraphs in articles that contain our key words, resulting in a total of 30,473 conspiracy theory paragraphs across the two newspapers.

To validate our measure, we returned to close reading. First, we read a random sample of 500 paragraphs from all articles, looking for conspiracy theories our key word approach might have missed. Our close reading found just one conspiracy theory in these 500 paragraphs, one that was also successfully identified using our key word classification approach. We also applied our classifier to the 1.2 million articles without our key words and identified just a few hundred additional conspiracy theories which make no difference to our estimates below (see Supplement, p. 9). Additionally, we pay attention to the quality of the automated classification as we read conspiracy theories for the qualitative portion of our research below and find no significant classifier errors. Taken together, these results show there is no significant set of false negatives or false positives lurking in our data.

We also consider that newspapers might report conspiracy theories to criticize, rather than promote them.
The effects on readers may be same; Berinsky (2017, 241) finds that “attempting to quash rumors through direct refutation may facilitate their diffusion.” Moreover, mentioning a conspiracy theory neutrally, or even critically, can be a strategy for promoting it while maintaining plausible deniability. Still, we asked our coders to evaluate how each conspiracy theory in the training set was framed and find that 54% are endorsed by the author, 17% criticized, and 29% presented neutrally. Our results are robust to including only the conspiracy theory paragraphs that we estimate are endorsed by the author.

**Predicting the Supply of Conspiracy Theories with Regression**

We seek to explain the variation in conspiracy theory paragraphs over time, which we plot in Figure 1 for *Al-Ahram* (red) and *Al-Masry Al-Youm* (blue). We also plot two variables that we argue are important predictors of conspiracy theories. First, we indicate changes to Egypt’s regime using alternating shading. All of these regimes are autocratic, with the possible exception of Muhammad Morsi’s presidency from 2012-2013, but autocracy under Mansour and al-Sisi is widely seen as more repressive than under Mubarak’s last years, or under the Supreme Council of the Armed Forces (SCAF).

We also plot the moving average of significant contentious political events in Egypt reported in the ACLED data set (Raleigh et al., 2010). While threats to the Egyptian government came in many forms, concerns about sovereignty and military prestige meant that all of Egypt’s leaders were particularly threatened by violent, contentious political events. We use ACLED’s counts of events – attacks, battles, and protests— to proxy for regime perceptions of threat that we cannot directly observe. During the 20-year period from 1998 to 2018, ACLED reports 3,883 protests, 1,811 riots, 1,909 battles, 1,718 explosions or remote violence, 1,058 instances of violence against civilians, and 661 “strategic developments.” We treat these counts with some caution. Clarke (2021) shows that ACLED undercounts peaceful, localized, and rural protest events in Egypt between 2012-2013. There are also concerns that ACLED might miss more protests in Egypt prior to 2011. If our study were focused on protest dynamics instead of threat, these biases might make ACLED unusable. For the purpose of measuring threat to the government, however, the fact that ACLED is primarily accurate for larger, more violent events of all types makes it useful. We compare our results with other

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5The Polity project denotes this period as a “transition,” [https://www.systemicpeace.org/polity/egy2.htm](https://www.systemicpeace.org/polity/egy2.htm), accessed 10/19/2021. Similarly, the V-Dem’s “clean election index” scores 2012 as the best in Egypt’s history since 1900 [https://www.v-dem.net](https://www.v-dem.net), accessed 10/19/2021.

6Personal communication with Killian Clarke, 10/17/2021.
measures below.

![Graph](image)

**Figure 1:** Average counts of conspiracy theories in each newspaper. The solid lines indicate the moving average. Dashed lines indicate the average during each administration.

Figure 1 visually displays several correlations that persist in our regression results. First, as more protests, attacks, and battles occur in Egypt, there are more conspiracy theories in both newspapers. Second, different regimes in Egypt have faced different levels of threatening events, with Mubarak facing very few, and the other administrations facing far more. In broad strokes, this suggests that Mubarak may have perceived a lower level of threat than his successors. Third, the supply of conspiracy theories in *Al-Ahram* changes dramatically with regime changes. *Al-Ahram* prints fewer conspiracy theories than *Al-Masry Al-Youm* during the Mubarak and Morsi eras, and more during the Mansour and al-Sisi eras.

We estimate these correlations more formally with regression. Our outcome is the count of conspiracy theory paragraphs in each newspaper on each day, so we use a generalized linear model with a negative binomial link appropriate for (potentially over-dispersed) counts. We proxy threat to the government using the sum of all violent political events in ACLED over the previous 7 days. We interact this variable with an indicator variable for each newspaper, expecting that *Al-Ahram* will be more responsive to increases in ACLED event counts than *Al-Masry Al-Youm*.  

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Without the ability to manipulate threatening events, we adopt a strategy of conditioning on likely confounders to make inferences about the effect of threatening events on conspiracy theory supply. The unexpected and timing of these threatening events makes it plausible that they caught Egypt’s government by surprise; we argue that they are plausibly exogenous after we condition on just a small number of potential confounders. We include several control variables that might confound the relationship between the events-newspaper interaction and conspiracy theories. Some articles in both newspapers are drawn from international news agencies which are unlikely to promote conspiracy theories, so we control for the count of paragraphs and articles from these sources. We also control the total number of paragraphs and articles in each issue of the newspaper, regardless of source, because both newspapers get longer over time. Finally, we control for the day of the week, expecting that journalistic practices might vary through the week. In some models, we add year-month fixed effects, which are indicator variables for each calendar month between 2005 and 2018. These models restrict the variation to one-month periods, showing that government supply is responsive to daily events. These fixed effects also address concerns that ACLED is not comparable over long time frames; it is at least comparable in the time-frame of a month.

Figure 2 shows our main result: Al-Ahram supplies more conspiracy theories than Al-Masry Al-Youm in response to the same events. We graphically present predicted counts of conspiracy theories in each newspaper as ACLED events increase from zero to the maximum of 151, along with the histogram of ACLED events on the x-axis. The left panel, corresponding with the numerical results reported in Table 1 of the Supplement, shows that when there are no threatening events, the state-controlled newspaper supplies fewer conspiracy theory paragraphs: 2.2 per day for Al-Ahram and 2.7 per day for Al-Masry Al-Youm. The predicted values cross when there have been 28 ACLED events in the last week. When ACLED records 150 events in the last week, Al-Ahram prints 17.9 conspiracy theory paragraphs per day, 2.3 times as many as Al-Masry Al-Youm.

The right panel shows predicted conspiracy theory counts with year-month fixed effects. Al-Ahram is still responsive to threatening events, even within a single month; we choose July 2013 for presentation, but changing the month just moves the baseline up or down. As the count of events increases, conspiracy theories in Al-Ahram increase from from 4.4 to 7.8 when there have been 150 events in the last 7 days. In contrast, the predicted number of conspiracy theories in Al-Masry Al-Youm remains constant or declines.
slightly as the number of events increases. Figure 2 shows that *Al-Ahram* diverges most from *Al-Masry Al-Youm* when ACLED records at least 50 events in the past week, which is true for 226 out of 4,429 days, or 5.1%.

To better understand the timing of oversupply by *Al-Ahram*, we generate estimates from model 1. We calculate the daily undersupply or oversupply in *Al-Ahram* by calculating predicted values from the model using the covariate values for *Al-Ahram* on a given day but setting the *Al-Ahram* indicator variable to zero, as if it were the independent newspaper. We then subtract the observed value of conspiracy theories in *Al-Ahram* that day from the predicted value if *Al-Ahram* were independent and use this as our daily estimate. We plot these values in Figure 3, with the x-axis indicating the date and the y-axis indicating the estimated undersupply (negative values) or oversupply (positive values) by *Al-Ahram*. We show a moving average of the under/oversupply estimates, using blue for periods of undersupply and red for periods of oversupply.

The state-controlled newspaper consistently undersupplied conspiracy theories under Mubarak. One exception is that *Al-Ahram* begins to oversupply conspiracy theories just at the onset of the 2011 revolution, but then flips back to the most extreme undersupply that we observe in the entire time period right after Mubarak is deposed. We take this oversupply to be Mubarak’s last-ditch effort to divert attention as his grip on power weakened. Undersupply remains the norm under the SCAF, except for a period of oversupply after
the Port Said soccer riot, an embarrassing event for the regime. Undersupply continues after Morsi’s election which is consistent with the argument that democracy decreases government supply of conspiracy theories. However, given that democracy was not consolidated, and we observe only one democratic administration, we cannot rule out that this undersupply might be the result of factors ideosyncratic to the Morsi government.

*Al-Ahram* has oversupplied conspiracy theories in almost every month under the Mansour and al-Sisi governments. We observe especially large upticks around particularly threatening events, such as the downing of a Russian airliner in the Sinai by terrorists. Our data suggest that the government mobilizes a particular set of *Al-Ahram* authors to promote conspiracy theories after threatening events. Most newspaper articles list one or more authors; we observe that a relatively small number of authors write conspiracy theories quite frequently, while the rest write them very rarely. We identify 175 authors who use conspiracy theories in at least 10 percent of their articles and find that these authors are statistically more likely to write when the number of ACLED events was high the previous day.

These results suggest that conspiracy theory promotion differs substantially by regime, not just by...
regime type. We confirm this by re-estimating the same specification in model 1 but for only the dates corresponding to the tenure of each executive. These models corroborate that the oversupply dynamic is primarily a feature of Al-Ahram after the regime change in 2013, and that the general approach of the Mubarak, SCAF, and Morsi governments was to undersupply conspiracy theories.

Our results are robust to a very large number of other modeling and measurement alternatives: Poisson regression; linear regression; aggregating conspiracy theories at the article level; counting only conspiracy theories that are endorsed by the journalist; including the data from Al-Ahram back to 1998; estimating separate regressions for each type of the ACLED event individually; using the count of ACLED events on the same day only; using the one-day lag of ACLED events; using the logged ACLED events in the last 7 days to account for skewness; using the logged count of ACLED events on the same day only; proxying threat with ACLED death counts instead of event counts; using a dichotomous variable “ACLED crisis” defined as 1 if ACLED events are in the top 75th percentile and 0 otherwise; a dichotomous variable “ACLED crisis 2” defined as 1 if ACLED events are in the top 90th percentile and 0 otherwise; omitting combinations of control variables; adding indicator variables for each regime; and a few more. For brevity, details on these alternatives are in the Supplement, pp. 6-15.

Additionally, we consider the possibility that our results are spurious because of limitations or biases in the ACLED data. One alternative is to focus on terrorism, which is a subset of the events we think might be threatening that is highly observable, and for which alternative data sources are available. We measure terror threats in Egypt using event counts from the Global Terrorism Database (LaFree and Dugan, 2007), which have a 0.52 correlation with our ACLED measure. Our results are robust to this alternative measure of threat.

New protest data coded by Clarke (2021) from Al-Masry Al-Youm offers a significant improvement over ACLED for measuring protests in Egypt, so we consider this measure as well. New several measures of protest can be constructed from these data; we prefer a measure that counts the sum of ongoing anti-regime protests as this best captures protests that threaten the government. One severe limitation of these data are that they cover only the period from January 2012 to July 2013. During this period, our models with ACLED events show that Al-Ahram generally undersupplies conspiracy theories. The anti-regime protest measure

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7These data are not yet public; we thank Killian Clarke for making them available to us.
from Clarke (2021) has a 0.63 correlation with our ACLED measure and we recover similar evidence of undersupply in response to anti-regime protests for the 2012-2013 period. We cannot test whether our findings from the Mubarak, Mansour and al-Sisi governments hold with Clarke’s measure of protest because it doesn’t cover these time periods.

One other robustness check deserves special mention. After completing the analysis of Al-Ahram and Al-Masry Al-Youm, we became concerned that our findings might be dependent on idiosyncrasies of the two newspapers, or that Al-Masry Al-Youm might not be sufficiently independent. With advice from Egyptian colleagues at Cairo University, we collected 775,126 articles (from 3,230 days) from the independent newspaper Al-Shuruq, and 75,196 articles (from 878 days) from a less-prominent state-controlled newspaper, Al-Gomhuria (see the Supplement, pp. 15-16). We were unable to collect either of these newspapers completely, but our results remain substantively similar when we add the available data.

Our conclusions from these models are as follows. We find evidence that both newspapers print more conspiracy theories in response to threatening events, but differentially so. The official paper, Al-Ahram, is far more responsive to threatening events than the independent Al-Masry Al-Youm. These differences are substantively large; when the count of events changes from its minimum to its maximum, Al-Ahram increases its supply of conspiracy theory paragraphs approximately sevenfold, from 2.5 to 18 per day. The oversupply in Al-Ahram responds to day-to-day changes in threatening events, suggesting government intent. This oversupply of conspiracy theories is concentrated in times when autocratic Egyptian governments faced large numbers of threatening events, and is strongest since the 2013 coup. By contrast, the authoritarian government of Mubarak preferred to undersupply conspiracy theories from the mid-90s until it faced extreme crisis at the end of 2010. We conclude that neither threat nor authoritarianism alone is a sufficient explanation. Rather, when authoritarian governments feel threatened, they are more likely to print conspiracy theories.

**Qualitative Analysis of Oversupplied Conspiracy Theories**

To infer more about the Egyptian government’s goals, we qualitatively examine some periods of oversupply. Our goal is to inductively learn what types of conspiracy theories the state-controlled newspaper promotes when it oversupplies, so we identify the days on which predicted oversupply by Al-Ahram is above the 80th percentile and select a random sample of thirty days from that set of 881. This sampling strategy, in which
our cases depend intimately on our regression model, leverages the strengths of nested analysis (Lieberman, 2005) and the integrative mixed-methods tradition (Seawright, 2016). With these thirty randomly selected days, two of us evaluated every *Al-Ahram* article with a conspiracy theory, summarizing the alleged conspiracy and noting incidents or actors matching those recorded by ACLED in the previous two weeks.

In the 141 articles we examined, references to perpetrators, victims, and incidents from the prior two weeks of ACLED were present only 13% of the time for the perpetrator, 6% of the time for the victim, and 9% of the time for the incident. The vast majority of *Al-Ahram’s* conspiracy theories on these days have little connection to recent events, suggesting that the state intends to deflect rather than craft a narrative about what is happening.

State-controlled media does reference recent events in conspiracy theories following some pivotal events. Our sample included October 12, 2011, immediately following the “Maspero Massacre,” in which several dozen peaceful protesters, primarily Coptic Christians, were killed and hundreds wounded when security forces attacked them in front of the Maspero television building. Four of the seven articles with conspiracy theories referred to the incident, but primarily allege the presence of evil forces threatening the Egyptian people without providing a detailed account or naming a specific plot or perpetrator. For example, one article quotes a religious figure who “confirmed the existence of collusion by domestic and foreign elements, that aims to push Egypt toward a state of anarchy” and “called on all Egyptian people, both Muslim and Christian, to exercise self restraint, stay calm, and not participate in any demonstrations or sit-ins.”

At least half of the conspiracy theories in *Al-Ahram* we randomly selected for close reading appear formulated to promote unity by invoking vague fears. The formula consists of (1) vague references to domestic or foreign perpetrators, (2) an undefined plot to divide the Egyptian people by sowing chaos, and (3) a call for unity, calm, and fortitude. *Al-Ahram* casts the Egyptian government as the only protection from these plots, portraying leaders as stalwart in the face of these nefarious threats. They also describe Egypt’s leaders as astute, vigilant to threats that others are too naive to see. Lastly, these articles often explicitly criticize dissenters. For instance, on February 24, 2016, two years after the coup that brought al-Sisi to power, an article notes that “those who see al-Sisi’s words merely as a method to stay in power or to strengthen the grip of the security apparatus—respond with disregard and contempt to his talk of

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8 This is resonant with arguments about attempts to restore the “prestige of the state,” during this period documented by El-Ghobashy (2021, Chapter 6).
conspiracies and plots, when in actuality the facts of the matter demonstrate that 99% of what happens on the ground in Egypt is not a coincidence at all, and those who deny the existence of a conspiracy against Egypt and the region are either naive, ignorant, or themselves a participant in the conspiracy, perhaps without even being aware.”

5 Conclusion

When and why do states promote conspiracy theories? In this paper, we have offered new concepts, theory, and evidence to answer this question.

We introduce the concepts of oversupply and undersupply of conspiracy theories by states. Conspiracy theory oversupply happens when state-controlled media spreads more conspiracy theories than if it were independent; undersupply happens when state-controlled media spreads fewer. Several important studies have examined changes in the number of conspiracy theories in state-controlled media over time, but none, to our knowledge, have considered counterfactually what state-controlled media would produce if it were not state-controlled. If we are correct that independent media also promote conspiracy theories, than it is not merely the appearance of conspiracy theories in state-controlled media that needs explanation. Rather, our goal is to explain why state-controlled media sometimes promote more or fewer conspiracy theories than we would expect if they were independent.

To explain the over- and undersupply of conspiracy theories by states, we take two theoretical factors that are considered separately in the literature—regime type and diversionary incentives—and bring them together. We agree with previous studies that states face diversionary incentives to promote conspiracy theories when they are under threat, but these incentives are offset by the risk that doing so will backfire. We argue that, because of reputation costs, official media will undersupply conspiracy theories in the absence of threats. As threats increase, the official media is much more likely to oversupply conspiracy theories. Our argument applies to democracies as well as autocracies—regime elites in democracies can feel threatened as well—but autocrats face fewer incentives to preserve the integrity of the fourth estate when their survival is threatened.

Most empirical studies of state conspiracy theory promotion focus solely on the dynamics of autocratic politics, often under a single stable regime. We test our argument in Egypt where rapid shifts in regime type
allow us to test whether political institutions matter while holding the media market constant. We measure the supply of conspiracy theories in more than one million Egyptian newspaper articles over twenty years, which allows us to make comparisons across time and between newspapers that were not previously possible.

In line with our theory, we find that state-controlled media begins to oversupply conspiracy theories as events threaten the regime; most of this oversupply has happened during Egypt’s most recent autocratic administrations. Our qualitative examination of these conspiracy theories reveals that they typically encourage societal solidarity and stability in the face of vague threats rather than crafting a narrative about specific recent events or actors.

During Egypt’s brief period of democratic rule, from 2012–2013, we find the opposite pattern: the state-owned newspaper undersupplies conspiracy theories despite high numbers of threatening events. This offers suggestive evidence that democracy may matter. However, with only a single period of democracy, and a contested one at that, it is possible that the trends during this period are the result of Morsi’s personal views on conspiracy theories, or some other administration-specific factor.

Our theoretical and conceptual contributions suggest several avenues for future exploration. For scholars of political communication, our approach could be extended to study the supply of conspiracy theories by states across the Arab World and beyond. More studies could compare state-controlled and independent media in places where both operate. In places like the United States where media independence is strong, our methods suggest new ways to analyze the supply of conspiracy theories by non-state actors across the political spectrum.

Our study also has implications for scholars of political psychology. To date, most experimental studies do not consider variation in the supply of conspiracy theories, and those that note this variation work to control it away (Ryan and Aziz, 2021). We can imagine a research agenda that more closely mimics the wide variation in supply in the real world and experimentally varies timing and intensity to learn how conspiracy theory supply affects demand.

Beyond questions of conspiracy theories, the study of Arabic-language news media in political science is in its infancy (Alrababa’h, 2019), and exciting new developments are in the works that show the promise of a text-as-data approach (Alrababa’h, 2021). We encourage scholars of political communication to consider what we can learn about politics in the Arab world with the new data and tools our study provides.
References


