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Bush, Sarah Sunn
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# The Effects of Authoritarian Iconography: An Experimental Test

## Sarah Sunn Bush[1], Aaron Erlich[2], Lauren Prather[3], and Yael Zeira[4]

## Abstract

Do public images of state leaders affect individuals' political attitudes and behaviors? If so, why do they have that effect and among whom? Authoritarian iconography could increase compliance with and support for the state via three causal mechanisms: legitimacy, self-interest, and coercion. This article uses a laboratory experiment in the United Arab Emirates to evaluate the effect of public images of state leaders on individuals' compliance with and support for an authoritarian regime. Using a pre-registered research design, it finds no meaningful evidence that authoritarian iconography increases political compliance or support for the Emirati regime. Although these null results may be due to a number of factors, the findings have important implications for the future research agenda on how and why authoritarian leaders use political culture to maintain power.

[1]Temple University, Philadelphia, PA, USA
[2]University of Washington, Seattle, USA
[3]University of California, San Diego, USA
[4]University of Mississippi, Oxford, USA

**Corresponding Author:**
Sarah Sunn Bush, 1115 Polett Walk, Gladfelter Hall 455, Philadelphia, PA 19122, USA.
Email: sarah.bush@temple.edu

## Introduction

Does authoritarian iconography encourage the public to obey and support the state? Many observers remark that leaders' images, which are often omnipresent in authoritarian states, must clearly perform important functions. As Daniel Kahneman (2011) puts it,

> Some cultures provide frequent reminders of respect, others constantly remind their members of God, and some societies prime obedience by large images of the Dear Leader. Can there be any doubt that the ubiquitous portraits of the national leader in dictatorial societies not only convey the feeling that "Big Brother Is Watching" but also lead to an actual reduction in spontaneous thought and independent action? (p. 56)

Inspired by the question about the role authoritarian iconography plays, this article uses a laboratory experiment in the United Arab Emirates (UAE) to evaluate the effects of public images of state leaders on individuals' compliance with and support for the state. Although there is a long tradition in political science of studying political culture, personality cults, and authoritarian iconography as sources of authoritarian rule, our study is the first to use experimental methods to examine the effects of authoritarian iconography, and one of the only studies that uses experimental methods to evaluate the effect of any authoritarian strategies on individuals' behavior (see also Lawrence, 2013). The use of experiments to address this research question is important because, although prior research treats symbolic displays of power as "independent variables" (Wedeen, 2010, p. 261), these displays are not randomly assigned to individuals. Instead, they are the deliberate results of political action on the part of both the state and individuals. Because leaders' symbols are displayed as a consequence of deliberate political actions, inferences about their effects may be biased if the researcher does not control for variables that could confound the relationship between images and political compliance and support. Experimental methods can help overcome this problem.

Our study randomly assigns some participants in the laboratory experiment to be exposed to images of Sheikh Khalifa bin Zayed Al Nahyan (Sheikh Khalifa), the ruler of the UAE, on their computer screens. This process allows us to test two hypotheses: participants will behave more compliantly when exposed to the leader's image, and participants will support the regime more when exposed to the leader's image. As we explain below, compliance and support often, but not always, go together; although an individual's support for the rules and institutions of the state typically implies her compliance with its rules and institutions, an individual's compliance does not necessarily imply her support. Finally, we also differentiate the possible impact of the leader's

image in particular from that of surveillance in general through a second treatment in which subjects are exposed to an image of stylized eyes in addition to the leader's image.

We measure compliance and support using a combination of behavioral and attitudinal indicators. In one prominent previous study of authoritarian iconography, Wedeen (1999) measures political compliance using evidence from individuals' "hidden transcripts" (Scott, 1990)—their private stories, ironical jokes, cartoons, and speculations. Yet these obeisant semiotic practices, which are often fictitious, are challenging to replicate. Moreover, they represent just some of the many potential outcomes that may be affected by political symbols. Therefore, we propose four new measures. First, we measure compliance using subjects' behaviors in a compliance game borrowed from behavioral economics in which participants are given a sum of money and asked to report honestly how much they have received so that their income can be taxed. Second, we measure compliance using subjects' willingness to donate some of their winnings to a charity to which they are (truthfully) told Sheikh Khalifa has directed people to donate. Third, we measure compliance using political attitudes questions. Finally, although some of these measures of compliance capture aspects of support, we specifically measure regime support using subjects' attitudes toward policies that they are (truthfully) told Sheikh Khalifa has endorsed.

Contrary to the existing literature and our own expectations, we do not find evidence that images of the UAE's leader affect political compliance or support for the regime among UAE residents. After correcting for multiple comparisons, we do not find any statistically significant differences between subjects exposed to images of the leader and subjects in the control group on any of our measures of political compliance or support.[1] We do find some statistically significant differences in support for the regime between subjects exposed to the second treatment, which combines images of the leader with those of stylized eyes, and subjects in the control group. However, these differences are in the opposite of the expected direction: Subjects who were randomly exposed to the combined leader and eyes image were significantly *less* likely to express support for regime-endorsed policies. The results of a power analysis indicate that these findings are not due to a mere shortage in sample size although they may be due to other features of our research design such as its laboratory setting.

In spite of these null findings, the study makes several contributions. First, we draw on the literature to develop a theory that links authoritarian iconography to political attitudes and behavior. Second, we study the UAE, a case that is under-studied in political science and yet "intrinsically important" (Jones, 2015, p. 25) given its regional power and rapid liberalization.

Authoritarian iconography is hypothesized to be an important part of the Emirati regime's survival strategy (Davidson, 2013; Jones, 2015), making it a good "test case" for assessing the impact of iconography. Third, we test the effect of authoritarian iconography experimentally to overcome some of the limitations of previous observational approaches. Although we do not find any effect of authoritarian iconography on political compliance or support for the regime, the study establishes a baseline for future experimental research that can adapt our research design. Finally, although a single experimental study cannot on its own invalidate a theory, the study's findings suggest that authoritarian iconography could have null or different effects than previously believed, opening up new lines of theoretical inquiry.

The rest of the article proceeds as follows. We begin by reviewing the literature on authoritarian iconography and survival. We then develop a theory about how leaders' images may affect individuals' political attitudes and behaviors. We next describe our experimental study, which is designed to test the main predictions of the theory. Finally, we present our findings and discuss their interpretation.

## Literature Review

Authoritarian leaders use a number of tools to stay in power. Coercion is perhaps the most obvious way in which authoritarian leaders survive. Through their monopoly on coercive power, autocrats deter transgressions and secure compliance from potential opponents and the masses. Compliance under coercion is involuntary, as it is achieved under the threat of harm. Scholars have pointed to the importance of coercion in sustaining autocratic rule, arguing that the coercive power of the state is a stronger predictor of autocratic survival in some countries than the strength of the opposition (Way & Levitsky, 2006). Research has also pointed to autocrats' coercive potential as an important explanation for the failure of democratization (Bellin, 2004; Diamond, 2010).

Autocratic leaders do not, however, rely on coercion alone. Rather, they use a variety of strategies of accommodation (Diamond, 2010). In neopatrimonial regimes, leaders maintain authority through personal patronage (Roth, 1968; see also Weber, 1978, vol. 1 on patrimonialism). The fundamental feature of such regimes is the awarding by public officials of favors (e.g., jobs or licenses) in return for loyalty. Other strategies of accommodation, which can work in concert with the use of patronage, include mechanisms of representation and consultation such as limited, pluralistic elections or the passage of laws designed to include women in politics (Bush & Jamal, 2015). Paradoxically, elections can co-opt opposition and further entrench authoritarian regimes in

power, including by offering regimes a way to dispense patronage to key supporters (see, for example, Blaydes, 2011; Gandhi & Przeworski, 2007; Lust-Okar, 2006; Magaloni, 2006).

Studies of authoritarian survival have paid relatively less attention to political culture and authoritarian iconography of late. Classic studies, however, examined the cultural and iconographic elements of "personalistic" or "sultanistic" regimes in which the leader retains personal control over policy decisions and selects regime personnel (Chehabi & Linz, 1998).[2] In such regimes, iconography may generate support by enhancing legitimacy.[3] Cults of personality, for example, often exalt the nation's history and heritage and draw on "invented traditions" that differentiate the nation ethnically or culturally (Chehabi & Linz, 1998). This legitimacy-enhancing role of iconography and personality cults can be combined with other functions. In the Gulf monarchies, for example, "gentle" portraits featuring current rulers in a soft or flattering manner are displayed near portraits that display the same rulers as "hard men." The goal, according to Davidson, is to demonstrate to the population that the rulers should be "both loved and feared, and certainly never crossed" (Davidson, 2013, pp. 66-67).

Thus, previous studies have generated important insights into the sources and consequences of personality cults. Recent studies on this topic have relied on formal, theoretical models (Márquez, 2013) and interpretive methods (Wedeen, 1999) to further uncover the logic and meanings of iconography. Yet such studies are challenging for other researchers to independently verify and replicate. Moreover, observational studies may suffer from selection bias. As we describe below, authoritarian iconography is not deployed randomly but used in particular times and locations to achieve political goals. Thus, the impact of iconography may derive from the conditions under which it is displayed just as much as from the iconography itself. The experiment we described below overcomes some of these limitations, though it is not without limitations itself. Before describing it, however, we first synthesize the existing literature and distill its arguments into a general theory that links iconography to political behavior in stable authoritarian regimes with at least some element of "personalism."[4]

## Conceptualizing Authoritarian Iconography

*The Oxford Dictionary of English* defines iconography (2010) as "the visual images, symbols, or modes of representation collectively associated with a person, cult, or movement." As such, authoritarian iconography includes posters, sculptures, seals, insignia, public spectacles, and other visual representations that are associated with authoritarian regimes. The representations

may be particular to a leader, a political party, the military, or the nation—or they may be affiliated with multiple referents. We focus on authoritarian iconography that is associated with individual rulers, although we suspect our argument applies to other iconographic forms.

Broadly speaking, two types of actors deploy authoritarian iconography: states and citizens. Although it is possible that the state deploys these representations for purely expressive or normative purposes, many scholars argue that they serve a strategic function. Iconography may build and reinforce the legitimacy of the regime; for example, the leader may be pictured with previous rulers, which suggests continuity, or with other symbols of the nation or culture, which provide external sources of legitimacy. Iconography may also be used to remind the public about the regime's presence and coercive power; for example, the enormity or ubiquity of visual representations may convey the power and omnipresence of the regime. The public also deploys authoritarian iconography. People may do so to express their support of the government or because they want to signal their support—whether sincere or insincere—to state officials and other people. They may also do so because of cultural norms.

In many cases, it is clear who is deploying authoritarian iconography and why. In Amman, for example, the state is likely responsible for erecting a highway billboard featuring King Abdullah of Jordan, whereas the shop-keeper is likely responsible for hanging up a framed photo of the king on her wall.[5] In other cases—the large poster of the leader in a shopping mall, perhaps—the origins of iconography is less readily discernable. Yet even if the audience knows who has displayed the images, the audience rarely knows *why* with confidence. Both the state and the public have multiple potential motives for producing and displaying authoritarian imagery, and it is often difficult to know which motives are in operation. After all, the state rarely explains why it uses such images, and ordinary people have reasons to dissemble. Thus, we do not argue that authoritarian iconography requires the audience to recognize a particular source or ascribe a particular set of motives to that source for it to influence political behavior.

Individuals also process authoritarian iconography in diverse ways. Iconography can be processed subconsciously, which is to say that the images register in someone's mind without her awareness. Many kinds of political iconography have subconscious effects on individual behavior, including judicial symbols (Gibson, Lodge, Taber, & Woodson, 2010), national flags (Hassin, Ferguson, Shidlovski, & Gross, 2007; Robinson, in press), and affective cartoons (Erisen, Lodge, & Taber, 2014). As authoritarian iconography can be pervasive in countries where it is found, it may be so ordinary that the intended audience does not consciously notice it, yet it still subconsciously
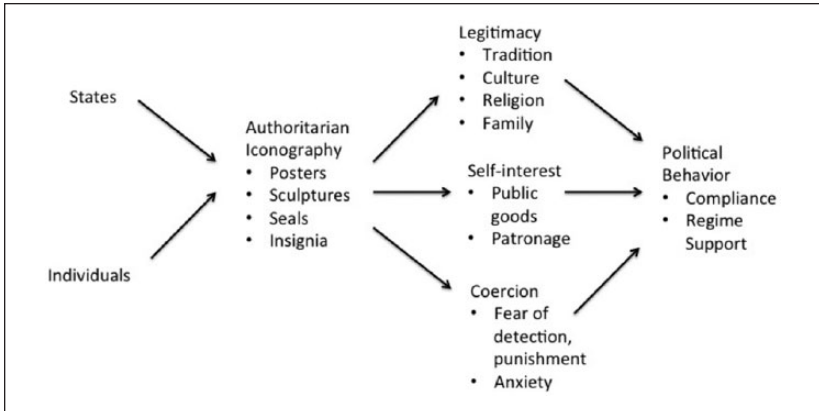
**Figure 1.** Causal pathways from iconography to behavior.

affects individuals' behavior. It is also possible that authoritarian iconography is processed consciously, which is to say that the representations of the leader affect someone's mind with her awareness. Even in environments where authoritarian iconography is pervasive, non-routine representations of the leader—for example, new or unusually large images—will be noticeable. In this case, the effects of authoritarian iconography on behavior may be conscious.

## How Authoritarian Iconography Shapes Political Behavior

How might authoritarian iconography affect political behavior? Regardless of whether the state or individuals display images and whether they do so in ways that are likely to generate conscious or subconscious effects, we argue that iconography can affect people's political behavior through at least three causal pathways. Figure 1 summarizes our argument.

Iconography can promote both individuals' compliance with the state and their support for the state.[6] *Political compliance* refers to the extent to which people obey the state's rules and institutions. *Regime support* refers to the extent to which people actually agree with the state's rules and institutions. Although compliance and support often result in behaviors that are observationally equivalent, they are not the same outcomes conceptually. People may publicly comply at the same time as they privately make fun of their ruler and resist his authority (Scott, 1990; Wedeen, 1999). In other words, although an individual's support for the state typically implies her compliance, an individual's compliance does not necessarily imply her support. For these

reasons, we believe that iconography can affect both individuals' compliance with and support for the state or that it can affect only individuals' compliance. The likelihood of iconography affecting both compliance and support instead of merely compliance may depend on how images are used, the audience, and the regime in question.

We propose that authoritarian iconography affects compliance and support via three mechanisms. We follow scholars such as Hurd (1999) in labeling these mechanisms legitimacy, self-interest, and coercion. First, the individual complies because she believes a legitimate authority has made the rule. Second, it is in her material self-interest to comply. Third, she fears reprisal for failing to comply. It follows, then, that by affecting perceptions of legitimacy, self-interest, or coercion, iconography could increase compliance and support.

The mechanism through which iconography affects compliance and support depends on the content and context of the image as well as individual factors. To make this argument more precise, it is helpful to take each mechanism in turn. Beginning with legitimacy, one of the primary ways states can augment their legitimacy is by calling on an external source (Schaar, 1981). In democracies, people are the external source, who validate popular acceptance of authority via elections. For autocrats, the external source is often tradition, history, or religion. Thus, to increase beliefs in the autocrat's legitimacy, iconography may depict the leader in traditional dress or include historic or religious symbols with the image. Moreover, the leader's image may appear alongside past leaders of the country or familial figures (Davidson, 2013; Wedeen, 1999). These associations suggest that the leader is the rightful authority and thereby may increase compliance with and support for his rules.

Turning to self-interest, it is well known that regimes can increase compliance by offering private benefits to individuals. In the UAE and other wealthy Gulf monarchies, states provide an extensive list of goods and services that includes free land, health care, and education (see, for example, Gause, 1994; Kamrava, 2009). In addition, regime survival may be linked to the ability of the leader to competently provide public goods (Bueno de Mesquita, 2003). Thus, iconography can remind individuals of the leader's role as provider by its placement near public works, such as bridges, ports, medical clinics, and schools. For example, the image of Sheikh Khalifa and Sheikh Mohammed of Dubai in Figure 2 is featured next to the Dubai World Trade Center. This image reminds individuals of the leader's role as provider. The online appendix contains other examples of iconography in the UAE, many of which fall into the self-interest category.

The last mechanism available to autocrats is coercion. Coercion may lead to compliance as individuals are reminded of the possibility of being caught

**Figure 2.** The Dubai World Trade Center, United Arab Emirates.
Photo taken May 27, 2011. ©Typhoonski | Dreamstime.com—Dubai World Trade Center Photo.

and punished for non-compliance. Although coercion may also lead to support, that will not always be the case. That is to say, coercion may motivate individuals to follow rules, but may not necessarily lead individuals to agree with them. Leaders may employ their image to remind individuals of their coercive power in several ways.[7] First, they may deploy large images and large numbers of images. The omnipresence of the images suggests that the state has the resources to dominate individuals. Moreover, it conveys a sense

of being watched, which suggests to individuals that the state has the ability to detect their non-compliance. Second, the leader may appear in military dress or with other symbols of the coercive apparatus of the state.

Each of these mechanisms—legitimacy, self-interest, and coercion—yield the same prediction: Exposure to authoritarian iconography will increase compliance with the state's rules and institutions and may also increase support for those rules and institutions. Yet it is important to acknowledge that certain mechanisms may be privileged across countries and individuals. Although we expect iconography to lead to compliance and possibly support in most stable autocracies, the predominant mechanism is likely to vary across different contexts. For example, the legitimacy mechanism may be more likely in a country such as Morocco, which is a monarchy that calls on religious motifs, whereas the coercion mechanism may be more likely in a country such as Saddam's Iraq. Moreover, the predominant mechanisms may also vary within countries. Consider again the example of Saddam's Iraq. Although the dominant mechanism linking Saddam's image to compliance in Iraq may have been coercion, the particular pathway for any individual could have varied. Individuals with contentious relationships with the regime may have complied when presented his image because they were reminded of coercion, whereas individuals who benefited from regime patronage may have complied out of self-interest. Again, however, and regardless of the mechanism, the leader's image points toward greater compliance.

Below, we specify a research design for examining the relationship between authoritarian iconography and compliance and support. We focus on testing the main effect of authoritarian iconography on compliance and support because a causal effect has not yet been established. Once the main effect of authoritarian iconography has been identified, future research can investigate the underlying causal mechanisms.

## A Lab Experiment in Abu Dhabi

Our study examines the effects of authoritarian iconography on compliance and support using a laboratory experiment in the UAE. As a firmly authoritarian country where authoritarian iconography is common, the UAE is an appropriate first location for an experimental investigation of the effects of iconography.[8]

Using a laboratory—rather than field—setting also confers several advantages. First, it allows us to conduct an experiment, which ensures that the main treatment—an image of the country's leader—is randomly assigned to participants. Although the logic according to which regimes and individuals display images of the country's leader is not fully understood, leaders' images

are not placed in locations at random. Thus, a real-world study that compared individuals' actions in the presence and absence of a leader's images could make an incorrect inference about the effect of those images due to omitted variable and selection bias.

Second, the laboratory allows us to employ more treatments than is likely possible in the field. Studies (e.g., Panagopoulos, 2014) have shown that people respond strongly to the sense that they are being observed in general, not just by an authority figure. Thus, it is important to distinguish the effects of exposure to an image of the leader from those of being watched more generally. This research design is more feasible in a controlled environment.

Finally, the laboratory allows us to conduct an experiment relatively freely. Conducting a study of iconography in a public place would be problematic in an autocracy from a number of perspectives: the difficulty of obtaining permission; the possibility of harassment or arrest of the researchers, subjects, or both; and the fear that subjects may have in terms of participation. Conducting the study in a laboratory—especially a lab with some of the freedoms described below—obviates most of those problems. Before elaborating the specific advantages of the UAE laboratory that we use, we provide some general background on the UAE.

## Background on the UAE

The UAE emerged as a sovereign nation during British decolonization. Originally known as Trucial States because of the truces signed between Britain and various tribal leaders, the UAE unified seven Trucial States into one country. To this day, the UAE remains a federation; seven emirs govern their own territories, or emirates. Between the emirates, power is unequal, in large part due to differences in oil resources and land. The emirate of Abu Dhabi, which includes more than three quarters of the UAE's landmass, and the emirate of Dubai, whose royal family is related to the Abu Dhabi family, are most powerful. Hence, in some ways the different Emirati lines represent a larger "royal grouping," even if they are not related by blood. The UAE's federalist structure is similar to other Gulf monarchies, which often have this feature within their families.

The UAE is also typical of other monarchies in that it has experienced one monarchical succession of power during independence. The succession occurred within the Bani Yas tribe of the ruling Al Nahyan family in 2004. At that time, Sheikh Khalifa succeeded his father Sheikh Zayed ("the Great") as the president of the UAE and ruler of Abu Dhabi. As in other monarchies, Sheikh Zayed is portrayed as the founding father of an independent UAE. It is possible that this hereditary succession will continue, though it

was previously uncommon in tribal settings for a son to succeed his father (Heard-Bey, 2005). One can continue to see images of Sheikh Zayed in many of the emirates as well as images of Sheikh Khalifa and other emirs.

Turning to representation, the UAE is again broadly similar to other Arab monarchies, although it allows less popular representation than some other members of the Gulf Cooperation Council, such as Kuwait. There is a unique form of competition between the federal units, however, which is firmly entrenched in the UAE's constitution and may partially substitute for competition on the legislative council. The most important legislative body in the country is the Supreme Council of the Union, which is made up of 25 ministers and has a cabinet with the seven emirs. Although the president is technically renewed every 5 years, in practice, the presidency is reserved for the ruler of Abu Dhabi. Also reflecting the disparate power relations within the emirates, only Dubai and Abu Dhabi have vetoes (Davidson, 2013).

Also similar to other Arab monarchies, freedom of speech in the UAE is restricted, particularly with regard to criticism of the royal family and other royal families in the region. Although criticism of government services and policies is generally permitted, rarely, if ever, do residents of the UAE criticize government officials by name. Indeed, even activists typically see criticism as unproductive or unnecessary (Krause, 2008). Criticism of the monarchy is further suppressed because it can result in jail and deportation for non-citizens and jail time for citizens.

Finally, similar to other Gulf nations and many other Arab countries, the UAE has a large expatriate community. Most long-term expatriate residents hail from the Indian sub-continent, with other smaller groups coming from the greater Arab world. These immigrants cannot currently obtain citizenship (Vora, 2013). Willingness to openly criticize the government may be lower among non-citizens for fear of loss of business licenses (through the *kafala* system, in which a non-citizen has to have a UAE citizen business partner) or deportation. Indeed, despite discrimination and their anger at not having access to benefits available to citizens, expatriate residents often praise the government for allowing them to accumulate wealth (Vora, 2008). As documented in anthropological work in Dubai, higher skilled expatriate workers are also in charge of monitoring and regulating the lower skilled workers they bring to the country and, hence, also become tools in maintaining authoritarian control (Vora, 2011).

Perhaps most pertinently for our study, the UAE is a typical case in the region in its use of iconography. In his recent book, Davidson (2013) analyzes political iconography in the Gulf, where images frequently occur in diptychs or triptychs that link together multiple generations or types of rulers. For example, Sheikh Zayed is often pictured next to Sheikh Khalifa in a diptych or the Vice President and Premier are present together in a diptych. The

online appendix contains several examples. This practice is also typical outside of the Gulf. For example, the leader of Azerbaijan, Ilham Aliyev, is often pictured with his father, Heydar Aliyev, in billboards. In Jordan, pictures of the current King Abdullah are often near pictures of his father, Hussein. These pictures, similar to the ones in the UAE, appear to stress the continuity of the regime.

Jones (2015) adopts the term "social engineering" to discuss the methods, including iconography, that the UAE regime uses to perpetuate its rule. Jones notes that the form of this engineering has changed over time to embrace a more liberal veneer than in cases such as the Soviet Union, Nazi Germany, or modern North Korea. Emirati spectacles and symbolism, while still seeking to promote regime stability, attempt to do so in a less coercive manner. Instead of holding a political rally with forced attendance, the UAE and similar regimes hold festivals and events, such as a Festival of Thinkers (Jones, 2015). This change in symbolism is particularly prevalent in many monarchies in the Gulf but has also occurred in China, Singapore, and Kazakhstan (Jones, 2015).

## Background on the Laboratory in Abu Dhabi

The above discussion suggests that the UAE is a plausible case for testing our theory, but our selection of it is not random. The key reason we choose the UAE is that it is the first country in the region to open an experimental social science laboratory. We employ the Social Science Experimental Laboratory (SSEL) at New York University (NYU), Abu Dhabi. Because it is part of NYU Abu Dhabi, the SSEL provides an environment of relative academic freedom in which we can study political dynamics that might otherwise be dangerous, prohibited, or both. While the SSEL lab is the first in the region, the UAE is no exception in its goal to internationalize education and increase critical thinking, even among authoritarian regimes. Most of the Gulf monarchies and other similar countries are currently attempting to expand the presence of international universities in their midst (Altbach & Knight, 2007).

## Generalizability

As with any single country study, readers may wonder whether it is possible to draw broader conclusions. We use residual analysis (Lieberman, 2005; Seawright & Gerring, 2008) to show that the UAE is a typical case in terms of regime stability, an outcome associated with political compliance and support, our main dependent variables. If the effects of iconography across authoritarian regimes are the same—to increase compliance with and support for the regime—then we want to know whether, controlling for observable

factors, the UAE is a typical case in the relationship between iconography and political behavior. In a perfect world, we would measure the usage of iconography by authoritarian leaders to examine whether the frequency and type of usage in the UAE is typical in relationship to regime stability. Unfortunately, no measures of iconography across countries exist. In other words, it is a missing variable in most models of regime stability. Hence, the best we can do is to examine the typicality of the case when predicting regime stability using other known factors.

To establish that the UAE is well-predicted by recent models of authoritarian survival, we turn to a recent, prominent study: Menaldo (2012). Menaldo examined the relationships between a variety of factors and regime stability in the Middle East. Given that Menaldo uses a time series, cross-sectional model, we pay particular attention to his prediction of stability in terms of the more recent residuals, rather than the historic residuals. As shown in the online appendix, the UAE fits a fairly typical model of an authoritarian monarchy. We believe this analysis suggests we can make comparisons between the UAE and other Arab monarchies with a fair level of confidence and can also comment on the relationship between iconography and political behavior more generally in other modern authoritarian regimes.

## The Experimental Design

### Subjects

The experiment was conducted on a subject pool consisting of 123 adult residents of the UAE. Although our pre-analysis plan (PAP) called for at least 150 subjects, we were unable to reach that number due to several challenges in subject recruitment. Nevertheless, the results of a power analysis do not indicate that we would have found substantially different results with 150 subjects. The results of the power analysis and a discussion of the specific challenges to recruitment are in the online appendix.

The subjects are part of a subject pool maintained by the SSEL that includes students from local universities. Some of the subjects are Emirati, but most are long-term, non-citizen residents, who were typically born in the UAE or immigrated with their families at a young age. Nearly all are Muslim. Their parents' (or, in some cases, their) countries of origin include states with large emigrant populations in the Middle East and South Asia, including India, Lebanon, Pakistan, Palestine, and Syria. See the balance table in the online appendix for descriptive statistics on the demographic characteristics of the sample. The online appendix also compares the subject pool with the Emirati population, showing that our subjects were more likely to be female, from the emirate of Abu Dhabi, and non-Emirati nationals than the population as a whole.

The composition of the sample may privilege some causal mechanisms over others. In particular, non-citizen residents are not only more vulnerable to state authority than Emirati citizens but also lack their networks of clientelism and patronage. Thus, any impact of authoritarian iconography that we find among them is more likely to be driven by coercion and is less likely to be driven by self-interest and legitimacy. Because our interest in this study is establishing the main effect of authoritarian iconography, not testing causal mechanisms, we do not expect this dynamic to bias our findings.

## Treatments

To test our argument about how authoritarian iconography affects political behavior, we expose randomly selected individuals in our study to images of the UAE's ruler—Sheikh Khalifa—via subliminal priming. In subliminal priming, a stimulus—in this case, an image—is displayed to the subject for a short amount of time such that it lies outside of the subject's conscious awareness. In our experiment, as in many others, the stimulus "flashes" repeatedly on the computer screen at which the subject is seated.[9] Computer stations have barriers that prevent contamination between subjects.

Social scientists have widely studied subconscious political stimuli and have often found significant effects.[10] Although authoritarian iconography can have both conscious and subconscious effects, subconscious stimuli allow for a more precise administration of the treatment and thereby minimize non-compliance. In subliminal priming, subjects are told to stare at the screen while the prime "hits" them between the eyes. Thus, to the extent that they follow the instructions, all subjects are affected by the treatment. We therefore initiate the experimental research agenda on authoritarian iconography by exploring the theorized subconscious effects.

Using this subliminal approach, we randomly assign subjects to one of three experimental conditions. Subjects assigned to the main treatment (the Leader Treatment) are exposed to images of Sheikh Khalifa. The images we use (e.g., Figure 3) are reproductions of some of the many official photographs of Sheikh Khalifa that are displayed in the UAE. We selected images that do not include anything beyond the leader (e.g., they do not contain flags or other national symbols), which therefore should not privilege any mechanism. For each priming sequence, we randomly expose subjects to one of four images of the Sheikh facing the camera; we use multiple images of the Sheikh to reduce the likelihood that subjects recognize the image and it becomes supraliminal. Image selection is randomized.

One potential critique of our main treatment is that its effects may have nothing to do with the authoritarian leader, but rather may be due to a generic

**Figure 3.** Example of Sheikh Khalifa treatment image.

monitoring effect. Scholars have shown that images that signal being observed, such as stylized eyes, can affect behavior (Haley & Fessler, 2005; Panagopoulos, 2014). To address this concern, we also include a second experimental condition (the Leader and Eyes Treatment), in which subjects are exposed to an image of stylized eyes in addition to Sheikh Khalifa.[11] As in the main experimental condition, the treatment occurs when subjects are twice exposed subliminally to Sheikh Khalifa's image and twice exposed to the stylized eyes. The order of exposure to the images is randomized. If the additional exposure to the eyes has no effect on compliance and support relative to the effect of the image of Sheikh Khalifa on its own, this would suggest that no general monitoring effect is in operation. If it does have an effect, this would suggest a monitoring effect.[12]

Finally, subjects assigned to the control condition are exposed to the forward and backward masks. These masks can be found in the online appendix and are simply disarticulated versions of the images of the Sheikh. We follow this procedure to make sure that all subjects experience the experiment in the same way.

As summarized in Table 1, we administered the complete priming sequence to subjects before each outcome measure. Repeating the prime means that the "dosages" of our treatments could increase. But because the treatments are subliminal, our inferences should not be affected; indeed,

**Table 1.** Sequencing of Lab Instrument.

| Sequence | Category | Measure |
|---|---|---|
| 1 | Demographic and mood questions | Potential covariates |
| 2 | Priming | |
| 3 | Compliance game | Compliance outcome 1 |
| 4 | Priming | |
| 5 | Charity task | Compliance outcome 2 |
| 6 | Priming | |
| 7 | Policy support questions | Support outcome |
| 8 | Priming | |
| 9 | Compliance attitudinal measures | Compliance outcome 3 |
| 10 | Manipulation check | |

repeated exposure to treatments over an experimental session is common in studies using subconscious primes (Erisen et al., 2014; Kam & Zechmeister, 2013). Moreover, repeatedly priming subjects ensures that the treatment is fresh for each outcome and mimics real life, as in walking past images repeatedly in the street. As is standard in subliminal priming studies, we ask participants at the end of the study if they saw any images during the experiment and, if so, what the images were. These results are reported in the online appendix.

### Randomization Strategy

Several strategies of assigning the treatments to subjects are possible. The simplest strategy would involve assigning the subjects to experimental groups using a random number generator upon arrival. In small- to medium-sized lab experiments, however, precision can be improved through blocked designs. Blocking should focus on variables likely to affect the outcomes, as well as the variables that define any subgroups to be used in subgroup analyses (Moore, 2012). Of course, blocking requires obtaining data on subjects before they arrive in the lab. The SSEL collects data in advance on a limited number of demographic factors including gender. As gender could be related to individuals' compliance (e.g., Blass, 1999; Hasseldine & Hite, 2003), we block on it.

### Outcome Measures

We measure political compliance and support using a mix of behavioral and attitudinal measures that are portable to other contexts. Below, we outline

each test and specify how we will analyze and interpret our results across the different tests. We conclude with a discussion of plausible alternative tests and measures.

*Political Compliance.* We first measure compliance behaviorally. Many psychological experiments have studied individuals' compliance with authority, the most famous of which is Milgram (1963). For our study, however, it is important to measure compliance with rules and institutions of the state. Subjects therefore play one round of a game developed to measure tax compliance. In the basic game, participants are given a sum of money. They are told that a percentage of their money must be given back to the researchers and that the researchers only know with some probability how much they received based on what they report. Finally, the participants are told the penalty they incur if they do not report the true amount they received. Compliance with the rules of this game is expected to reveal the motivations to comply when faced with a risky task (Andreoni, Erard, & Feinstein, 1998). We follow the procedures used in the widely cited study that developed this game (Alm, Jackson, & McKee, 1992): The proportion of the declared money that subjects are asked to return to the researchers is 40%, the probability of their true amount being discovered is 1%, and the penalty that subjects pay is an additional 30% of their earned income. To ensure that subjects understand the protocol, we conduct two practice rounds of the game. Because compliance in the game was strongly bimodal, we measure compliance using a binary measure indicating whether individuals did not report any of their income (e.g., Cadsby, Maynes, & Trivedi, 2006).[13]

Our second measure of compliance relies on the subject's willingness to donate to a regime-endorsed charity. In January 2015, Sheikh Khalifa issued a public directive to donate to charity as a part of a campaign called "UAE Compassion." At the end of the compliance game, we inform participants of the directive and ask them if they would like to donate some of their earnings to the Red Crescent Society of the UAE, which was one of the main partner charities that participated in the UAE Compassion campaign. Because charitable giving was also bimodal, we measure compliance using a binary measure indicating whether individuals donated at all and report results using an alternate, continuous measure in the online appendix (Karlan, List, & Shafir, 2011; Landry et al., 2010).

Finally, we measure compliance using survey questions that permit us to examine how leaders' images affect reported attitudes about political authority. Openly expressing opposition to the regime is risky in the UAE and asking about compliance with or support for the government is unlikely to elicit

truthful responses. Thus, we examine attitudes toward compliance with the state *in general* using survey measures adapted from questions that were previously posed to respondents in the Gulf region and other authoritarian states via the Arab and Afrobarometer surveys. We ask respondents five paired survey questions intended to measure our underlying concept of political compliance, as it relates to individuals' respect for authority, relationships with the government, freedom to organize, freedom of speech, and freedom of expression. Contrary to our expectations, responses to these five survey questions did not load onto a single factor, suggesting that they do not reflect a single, underlying concept of compliance. As Cronbach's alpha fell well below the threshold of at least .70 specified in the PAP, we analyze responses to each survey question separately rather than using an index or other composite measure.[14]

We view the behavioral and attitudinal measures of compliance as complementary. That is, we view each measure as capturing the same, underlying concept: political compliance. For this reason, we interpret results across the three measures of compliance using a strict test and false discovery rate corrections across our measures, including the five survey measures as they do not load onto one factor. In both cases, we adjust the *p* values to control for the false discovery rate using the Benjamini–Hochberg correction (Benjamini & Hochberg, 1995). In the results that follow, we report both the uncorrected *p* values and the Benjamini–Hochberg corrected *p* values.

*Political Support.* We measure political support using three survey questions. As in the charity donation task, we give respondents information about policies that Sheikh Khalifa has endorsed. We then ask respondents the extent to which they agree or disagree with these policies. Two of the policies are foreign policies—international climate change and nuclear agreements that Sheikh Khalifa has supported—and one is a domestic policy—the creation of a space program by the UAE government that, as a UAE government policy, has the implicit endorsement of Sheikh Khalifa. We selected these policies as they are not sensitive policy issues in the UAE, allowing for honest reporting by subjects. The order of the questions is randomly assigned.

As with the compliance survey, we are unable to aggregate these survey questions into a single index because the three regime-endorsed policies do not correlate highly with one another. Given a Cronbach's alpha that falls well below the conventional threshold of .70 specified in our PAP, we analyze the three regime-endorsed policies separately. As such, we again adjust for

the false discovery rate across the three measures of support using the Benjamini–Hochberg correction and report the unadjusted and adjusted *p* values.

*Measuring Compliance and Support Using Other Strategies.* Other measurement strategies are possible. One would be to ask participants directly about compliance and support using a list experiment (see, for example, Corstange, 2013; Kuklinski, Cobb, & Gilens, 1997). However, because a list experiment exposes subjects in each condition to separate lists containing different items, it effectively doubles the number of conditions. Given that our study already includes three groups and multiple outcome measures, using a list experiment would unacceptably diminish statistical power.

An implicit association test could also be used to understand how positively subjects feel toward the Emirati government. We could ask subjects to categorize regime-related and regime-unrelated stimuli into categories with either positive or negative associations. Although this type of procedure might accurately measure support for the Emirati regime, it would confound the causal inferences that our study is designed to make. Exposing participants in the control group to the regime-related stimuli would essentially expose them to the leader's image.

## Results

Contrary to the existing literature and our own expectations, the results of the study do not indicate that images of the UAE's leader affect compliance with or support for the ruling regime among UAE residents. Although the direction of our findings is generally in keeping with our hypotheses, the overall finding of our study is null. As we elaborate later in the article, this null finding is probably not due to insufficient sample size although it could be due to other features of the research design. As we do not find that images of the authoritarian leader affect either political compliance or support, we focus our presentation below on comparing each of the two treatment groups with the control group.[15]

Before beginning our analysis, we assess balance across the three experimental conditions on 13, key pre-treatment covariates.[16] The three experimental conditions are generally balanced across the covariates. However, as may be expected given our relatively small sample size, we have some imbalance across groups. Specifically, we find that subjects in the Leader Treatment were somewhat older and came from wealthier families than subjects in the control group ($p < .10$). These subjects also reported themselves to be more
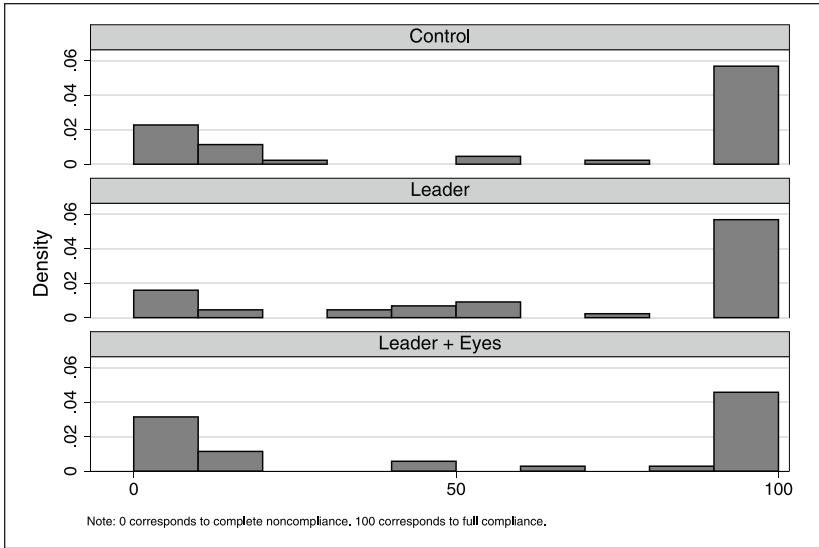
**Figure 4.** Percent of income reported in tax compliance game.

religious than subjects in the Leader and Eyes Treatment group ($p < .10$). These results are likely due to chance, as a model with all of the covariates combined does not predict assignment to treatment better than a null model. Nonetheless, in the following analyses, we report the results of unadjusted comparisons between groups as well as of regression analysis controlling for all three imbalanced covariates.

## *Compliance Results*

We first investigate the impact of the treatments in the compliance game. We measure compliance as a dichotomous variable, which is coded "1" for subjects who reported all their earned income (fully complied) and "0" for subjects who reported less. Following our PAP, we use this dichotomous measure because the proportion of income reported in the game is strongly bimodal (see Figure 4). We also report the results of the following analyses using the continuous measure of compliance in the online appendix.

Given this dichotomous dependent variable, we report the difference in the proportion of "compliers" across experimental conditions, as well as analyze the results using logistic regression models that also adjust for imbalanced covariates and the method of randomization. Following Bruhn and

Mackenzie (2008), we adjust for the method of randomization by including gender in all regression models as we blocked on gender in assigning subjects to experimental conditions.

As seen in Table 2, the proportion of subjects who complied (i.e., reported their entire income) was indeed higher in the Leader Treatment than in the control group. Whereas 52% of subjects in the Leader Treatment group complied, only 41% of control group subjects did so. This difference is not, however, statistically significant at conventional levels ($p = .29/p = .57$).[17] We also do not find any substantively meaningful or statistically significant differences between the Leader and Eyes Treatment and control groups. We find similar results using regression analysis that also adjusts for imbalanced covariates and the method of randomization, as shown in Table 3.

We next examine the impact of the treatments on the charity task. Because this variable is also highly skewed (see Figure 5), we use a dichotomous variable coded "1" if subjects donate any income (i.e., complied) and "0" otherwise. Given this dichotomous dependent variable, we again present the results of a difference in proportions test as well as of a logistic regression model below. The results of a difference in means test and ordinary least squares (OLS) regression using the original, continuous measure of donation are similar (see Table 10 in the online appendix for results using the continuous measure).

Contrary to our hypotheses, we do not find any statistically significant effect of either the Leader Treatment or the Leader and Eyes Treatment on donation to a regime-endorsed charity after controlling for multiple comparisons. The proportion of individuals in the Leader Treatment group who complied (i.e., donated to a regime-endorsed charity) is higher than the proportion of individuals in the control group who did so, but the difference is fairly small (see Table 2) and far from statistically significant (5 percentage points). Table 3 shows a similar pattern in the regression analysis ($p = .93/.94$).

We do find some suggestive evidence that the Leader and Eyes Treatment may have increased compliance with the donations directive. 57% of subjects who were randomly assigned to this condition complied, as compared with 32% of subjects in the control group. However, this effect is only significant when we do not adjust for multiple comparisons ($p = .02/.33$). These results hold when moving to logistic regression analysis that also adjusts for imbalanced covariates and the method of randomization, as Table 3 shows.[18]

We now turn to our final, attitudinal measures of compliance. As seen in Tables 2 and 3, we do not find any consistent effect of either treatment. The treatments are positively associated with some measures of compliance and negatively associated with others; none of the effects are statistically significant. This pattern is perhaps not surprising, given that our factor analysis suggests that the questions fail to reflect a single, underlying concept of compliance.

**Table 2.** Differences in Proportions and Means by Treatment Status for Compliance Outcomes.

| | Mean | | | Difference | | p value (t or z) | | p value (rank) | |
|---|---|---|---|---|---|---|---|---|---|
| | Control (1) | Leader (2) | Leader + eyes (3) | (2) – (1) | (3) – (1) | (2) vs. (1) | (3) vs. (1) | (2) vs. (1) | (3) vs. (1) |
| Complier (game) | 0.41 | 0.52 | 0.40 | 0.11 | −0.01 | .29/.57 | .93/.93 | | |
| Complier (donate) | 0.32 | 0.36 | 0.57 | 0.05 | 0.25 | .65/.93 | .02/.33* | | |
| Don't question leaders | 0.14 | 0.05 | 0.26 | −0.09 | 0.12 | .74/.93 | .69/.93 | .73 | .75 |
| Treat as child | 0.98 | 1.02 | 0.60 | 0.05 | −0.38 | .85/.93 | .17/.57 | .66 | .20 |
| Ban organizations | 0.57 | 1.00 | 0.83 | 0.43 | 0.26 | .10/.49* | .37/.65 | .07 | .30 |
| Close newspapers | −0.70 | −0.66 | −0.34 | 0.05 | 0.36 | .86/.93 | .21/.57 | .79 | .28 |
| Don't express views | −0.86 | −0.57 | −0.40 | 0.30 | 0.46 | .24/.57 | .08/.49* | .35 | .11 |

All rows show estimates from either difference-in-means or difference-in-proportions tests and Wilcoxon rank sum tests with $p$ values, both with and without multiple comparison corrections. Rank sum $p$ values not shown for complier measures as these variables are dichotomous.
*$p$ < .10 without multiple comparison. **$p$ < .10 with Benjamini–Hochberg multiple comparison adjustment.

**Table 3.** Treatment Effects on Compliance Outcomes From Regression Analysis With Covariate Adjustment.

| | Complier (game) logit | Complier (donate) logit | Don't question leaders | Treat as child | Ban organizations | Close newspapers | Don't express views |
|---|---|---|---|---|---|---|---|
| Leader | 0.59 | 0.04 | −0.34 | 0.05 | 0.32 | −0.10 | 0.04 |
| | (.21/.49) | (.93/.94) | (.21/.49) | (.83/.94) | (.24/.49) | (.72/.94) | (.87/.94) |
| Leader + eyes | 0.10 | 0.99* | −0.02 | −0.34 | 0.20 | 0.34 | 0.38 |
| | (.84/.94) | (.04/.49) | (.94/.94) | (.22/.49) | (.48/.85) | (.24/.49) | (.17/.49) |
| Control variables | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| n | 123 | 121 | 123 | 123 | 123 | 123 | 123 |

All regressions show coefficients and *p* values in parentheses, both with and without multiple comparison corrections.
*$p < .10$, without multiple comparison. **$p < .10$, with Benjamini–Hochberg multiple comparison adjustment.
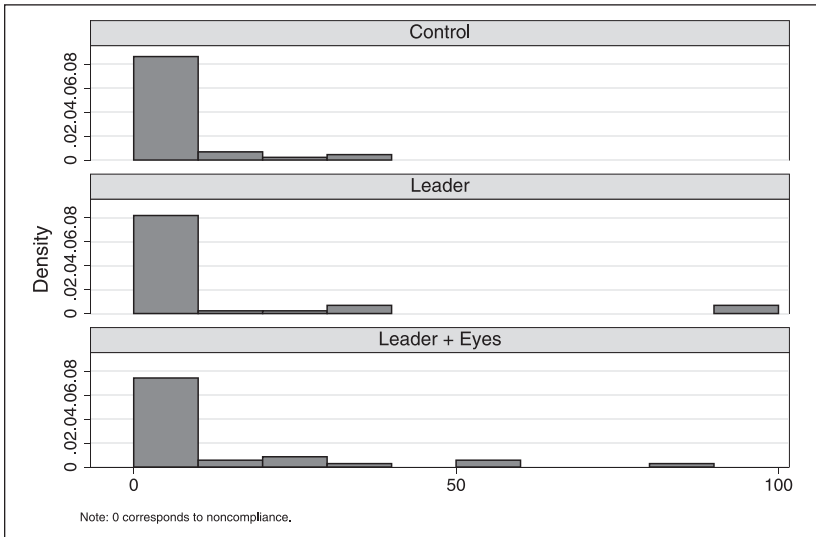


**Figure 5.** Percent of income earned donated in charity task.

## Support Results

Finally, we investigate the impact of the experimental treatments on support for the regime, as measured by support for three policies endorsed by the regime leader. Contrary to our expectations, exposure to both treatments is

**Table 4.** Differences in Means by Treatment Status for Support Outcomes.

| | Mean | | | Difference | | *p* value (*t* test) | | *p* value (rank) | |
|---|---|---|---|---|---|---|---|---|---|
| | Control (1) | Leader (2) | Leader + eyes (3) | (2) − (1) | (3) − (1) | (2) vs. (1) | (3) vs. (1) | (2) vs. (1) | (3) vs. (1) |
| Climate policy | 83.55 | 78.20 | 71.97 | −5.34 | −11.57 | .28/.49 | .03/.09** | .41/.61 | .03/.08** |
| Space program | 79.39 | 78.86 | 63.57 | −0.52 | −15.81 | .93/.93 | .03/.09 | .60/.72 | .01/.07** |
| Nuclear deal | 65.07 | 61.43 | 57.66 | −3.64 | −7.41 | .62/.75 | .33/.49 | .79/.79 | .31/.61 |

All rows show estimates from both *t* tests and Wilcoxon rank sum tests with *p* values, both with and without multiple comparison corrections.
*\*p* < .10, without multiple comparison. \*\**p* < .10, with Benjamini–Hochberg multiple comparison adjustment.

generally negatively associated with support. Assignment to the Leader Treatment results in more negative appraisals of regime policies related to the environment, space exploration, and nuclear proliferation, though none of these effects are statistically significant. Assignment to the Leader and Eyes Treatment reduces support for the regime's climate policy by approximately 12 points on the 101-point feeling thermometer ($p = .03/p = .08$) and for the regime's space exploration policy by almost 16 points ($p = .01/p = .07$),[19] even after adjusting for multiple comparisons (see Table 4). In contrast, assignment to the Leader and Eyes Treatment does not have a statistically significant effect on support for the regime's nuclear proliferation policy ($p = .31/p = .61$), though the effect again points in a negative direction. As seen in Table 5, these results continue to hold after adjusting for imbalanced covariates and the method of randomization.

**Table 5.** Treatment Effects on Support Outcomes From Regression Analysis With Covariate Adjustment.

| | Climate policy | Space program | Nuclear deal |
|---|---|---|---|
| Leader | −6.12 (.23/.47) | −1.00 (.88/.99) | 0.05 (.99/.99) |
| Leader + eyes | −12.04** (.02/.07) | −17.50** (.02/.07) | −3.96 (.58/.87) |
| Control variables | Yes | Yes | Yes |
| *N* | 123 | 123 | 123 |

All regressions show coefficients and *p* values in parentheses, both with and without multiple comparison corrections.
*\*p* < .10, without multiple comparison. \*\**p* < .10, with Benjamini–Hochberg multiple comparison adjustment.

## *Interpretation of Results*

In summary, our results do not indicate that images of the authoritarian leader affect political compliance or regime support among UAE residents. The most obvious reason for this null finding is insufficient statistical power; however, the results of a power analysis presented in the online appendix suggest that it is likely not the culprit. Although our sample size is small, expanding the sample to any sample size typical for a laboratory experiment is unlikely to change the key results of the study.

The specific design of our experiment is a likelier culprit. One issue relates to our use of a subliminal prime. Although subliminal priming allows for a more precise administration of the treatment and thereby minimizes non-compliance, it does not offer a way to independently verify that subjects received the treatment and it worked as intended. Therefore, it is in principle possible that subjects did not receive the treatment or that it worked differently than intended. Moreover, authoritarian iconography may in fact work primarily through a supraliminal mechanism. Future research could investigate this possibility by replicating our experiment using a supraliminal prime, such as through longer exposure to the images we used or by placing physical images outside the computer stations (e.g., on a laboratory wall).

Another issue relates to our use of primarily non-citizen subjects who differ from Emirati citizens in a number of ways, particularly their access to state networks of patronage. If it is the case that authoritarian iconography's effects inhere largely through the legitimacy or self-interest (i.e., patronage) mechanisms, then our sample may be the source of our null results. Future research could replicate our experiment using citizen subjects, though as we document in the online appendix, doing so will be challenging.

The use of a lab in the first place may also explain the null findings. Moving away from the real-world setting described in our theory removes the leader's image from its context. Before conducting the experiment, we hypothesized that the contextual associations of the image should remain with people, likely by leaders' design. Nonetheless, it may be that, absent the context that associates the leader with coercion, self-interest, or legitimacy, an image has no effect on compliance or support for the regime. Future research could investigate this possibility by modifying the treatment to pair the leaders' image with contextual factors. Similarly, because the authoritarian imagery in our study is ubiquitous in everyday life, it is possible that the main "treatment effect" of this imagery has already occurred and additional exposure to it through our experiment has no additional effect. Again, future research could investigate this possibility by priming individuals with images of leaders in contexts where they are not ubiquitous.

If this future research has null findings similar to our own, then this would indicate that our study was the first to establish empirically that authoritarian iconography does not affect individuals' political compliance and support. Given that iconography is widespread in authoritarian regimes, scholars may then need to develop new theory to account for its use. While it may be that authoritarian leaders are simply unaware that iconography has no effect on compliance and support, it may also be that its use by leaders fulfills a different purpose. The audience may not be domestic or the erecting of images may be due to cultural norms. While there are a number of steps in the research agenda before this conclusion can be made, we nevertheless note that authoritarian iconography may not affect compliance and support in the way scholars have traditionally theorized.

## Conclusion

This article evaluated the effect of public images of state leaders on individuals' political compliance and support in the UAE. Large public portraits of state leaders are ubiquitous in the UAE and other authoritarian states and were hypothesized to increase peoples' compliance with and support for the state. In our experiment, we randomly assigned some subjects to be exposed to an image of the state leader. The treatment—the portrait of the state leader—was naturalistic and closely mimicked the concept it was supposed to represent. Thus, in addition to the strong internal validity typically enjoyed by experiments, our experiment also had strong ecological validity. Contrary to our expectations, we did not identify any meaningful effects of the portrait of Sheikh Khalifa on subjects' compliance with or support for the regime.

In conducting our study—particularly for the special issue on transparency in the social sciences—we learned that many aspects of published social scientific laboratory experiments are not fully documented. Though these details—how long to prime for given a particular computer monitor's refresh rate, or how to effectively "teach" participants how to play the tax compliance game—may seem mundane, they are essential to making accurate descriptive and causal inferences. An important contribution of the study is therefore its transparent research design including online materials, which provide information about the details of our study that others researchers can use, refine, and adapt. We also provide the full script to run the study using the Inquisit Millisecond software. We encourage other researchers to replicate our findings, as the results of our experiment may be a statistical outlier. As readers who examine the online appendix will note, it was costly to try to record all steps in the research process. Time will tell whether the benefits to the research community of such "extreme transparency" outweigh the costs to the individual scholars of providing it.

In light of what we have learned, what should future researchers who want to study the effects of authoritarian iconography do beyond replicating our laboratory experiment? We offer the following suggestions for other researchers interested in adopting an experimental approach.

First, if it is possible to safely study iconography's effects in a non-laboratory setting, try it. Even in contexts that may be less challenging than the UAE in terms of recruiting subjects, researchers' budgets and laboratories' capacities make it difficult to conduct studies with sample sizes of more than a few hundred subjects. A field experiment that, for example, randomly exposed thousands of people to authoritarian iconography may improve upon our study in terms of verisimilitude as well as sample size—something which is likely to be necessary based on our revised power analyses.

Second, if it is not possible to safely study iconography's effects outside of the laboratory, try a lab experiment with a supraliminal treatment. This supraliminal treatment could be displayed on the computer or in the laboratory itself. What our study gained in terms of precision in treatment administration by using a subliminal treatment may have been lost in terms of treatment subtlety. Indeed, were we not committed to executing our study as outlined in the PAP, we might have switched to a supraliminal prime ourselves after our null pilot results.

This article therefore illustrates one of the core trade-offs involved with accepting work based on prospective research designs. On one hand, we are making public the null results of what we thought was a well-designed plan; and three reviewers, two editors, and four guest editors for *Comparative Political Studies* agreed sufficiently to give the manuscript a conditional acceptance based on our prospective research design. Yet under other circumstances, we might have struggled to publish the null results or left them in the proverbial "file drawer," thus contributing to publication bias and inhibiting the aggregation of scientific knowledge. On the other hand, we tied our hands, choosing not to adapt our research plan once the pilot results suggested that it was unlikely to generate significant findings. This choice, which was encouraged by our understanding of the mission of the special issue, may have prevented us from uncovering suggestive evidence of a different way that authoritarian iconography matters. Given limited subjects, lab time, and money, it was not possible to fully execute both our planned study and an adapted study that tried other types of treatments and might have more clearly pointed to the best avenue for future studies.

On balance, we think the trade-off associated with this publication model is worthwhile because it is possible that our study's findings reflect a "true null"; that is, that authoritarian iconography does not affect citizens' compliance with and support for regimes at all. Though previous studies argue such iconography is impactful, it is difficult to know whether the results generalize and also

whether they are truly due to iconography or to some other aspect of the state's survival strategy. Thus, it is important to continue to study this topic using a variety of research methods, including (but certainly not limited to) experimental ones. The need for future studies is underscored by alternative, plausible explanations for why leaders use iconography, such as that leaders use these images to express themselves and their authority or to mimic other authoritarian rulers. If those accounts are true, then authoritarian iconography may not cause citizens and residents to be more obeisant. Thus, in addition to replicating and extending this study, we encourage future researchers to theorize further about the conditions under which authoritarian leaders elect to display iconography and its possible, alternative effects. Ideally, researchers will jointly study the causes and consequences of authoritarian iconography.

Finally, the research program on political iconography should be extended to compare the use of images in democratic and authoritarian regimes. Many topics in comparative and international politics have been profitably studied in recent years by examining how phenomena that were once thought of as "democratic" work in authoritarian regimes, and vice versa. As any visitor to a U.S. post office, courtroom, or other public building will attest, images of the president are displayed prominently. If public images of state leaders genuinely convey meaning, then they may have effects even in democracies. Alternatively, the effects of leader images on citizens' compliance may be moderated by the institutional context in which they are located. Thus, we hope this article represents the first case in a new cross-national research agenda on the effect of leaders' images on individual compliance and support.

## Acknowledgments

## Authors' Note

The authors are listed in alphabetical order and contributed equally. Any remaining errors are their own. Replication files and appendices are available at https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/MITC3W

## Declaration of Conflicting Interests

## Funding

## Notes

1. The uncorrected (for multiple comparisons) results are largely similar.
2. Personalism often manifests itself in personality cults. Personality cults are frequently characteristic of totalitarian regimes but are not sufficient for them to exist (Linz, 2000) and are sometimes seen as an extreme form of neopatrimonial rule (see, for example, Chehabi & Linz, 1998).
3. Another function of personality cults is to reveal information about the regime's base of support. By forcing citizens to publicly accept fabulous claims (and seeing when citizens stop being willing to do so), they allow leaders to gauge their true level of support in a context of "preference falsification" (Kuran, 1991; Márquez, 2013; Wedeen, 1999). In contrast, our article examines *individual* rather than *societal* outcomes.
4. That is to say, our theory's scope is authoritarian regimes in which power is concentrated in the personal hands of the leader, whether he is supported by a party, military, or family. Of course, some types of iconography will be more likely in certain contexts than others.
5. Though in some countries, she is required by the state to do so.
6. It is also possible that a leader's image could lead to less compliance. For example, a leader's image could lead to everyday forms of resistance such as rumors, jokes, or other "weapons of the weak" (Scott, 1990). Leaders' images could also lead to less compliance when the leader is in the process of being deposed and might vary across individuals. Theorizing about the effect of images in regime transitions would be a fruitful path for future research.
7. *Individuals*, too, may display authoritarian iconography in ways that will generate compliance via coercion: When people see others displaying images, they are reminded that people support the state and can inform on them.
8. An alternative research design would remove individuals from the authoritarian context and examine the effects of exposing them to the images—perhaps, following Miguel, Saiegh, and Satyanath (2011), using a sample of immigrants in Europe. This approach would isolate the effects of the images from the country context.

9. The sequence occurs as follows: subjects are asked to stare at their computer, where they observe a fixation point (a black dot in the center of the white screen) for ~1,000 ms, a disarticulated version of a treatment image for 29 frames (the "forward mask"; ~484 ms on a 60 Hz monitor), a treatment image for one frame (~16.7 ms on a 60 Hz monitor), a disarticulated version of a treatment image for ~100 ms, a fixation point for ~1,000 ms, a disarticulated version of a treatment image for 29 frames (the "backward mask"), a treatment image for one frame, and a disarticulated version of a treatment image for ~100 ms. The one-frame exposure and two-time prime is consistent with previous research on priming (Weinberger & Western, 2008). Monitors in our study report refresh rates of 59 to 60 Hz.

10. Some recent examples include Erisen, Lodge, and Taber (2014), Kam and Zechmeister (2013), Olivola and Todorov (2010), and Weinberger and Western (2008). Although social scientists widely use priming, it has recently come under criticism because several prominent priming studies have been difficult to replicate and, in some cases, found to be fraudulent. To restore credibility to the social science priming research agenda, Kahneman (2012) recommends that researchers publicly commit to their planned study and "[p]re-commit to publish the results, letting the chips fall where they may, and make all data available for analysis by others" (p. 2). We follow this strategy.

11. We use the stylized eyes used in Haley and Fessler (2005) although, as far as we know, there is no experiment that indicates that the specific type of eyes matters. The stylized eyes are displayed on a black background to ensure the comparability of the treatments.

12. Ideally, we would also have had a condition with only the eyes to identify how much of the effect of exposure to the leader's image is due to the general monitoring treatment. Because of the difficulties associated with assembling a large sample, we could not pursue this avenue.

13. See the online appendix for results using a continuous measure of the money paid as a proportion of the money owed.

14. See the online appendix for results of the factor analysis.

15. That is, because we do not find that images of the authoritarian leader have an effect on political compliance or support, we do not attempt to differentiate the effect of the leader from a generic monitoring effect. Thus, we also do not include the comparison between the two treatment groups in our corrections for the multiple comparison problem.

16. See the online appendix for the balance table, as well as a discussion of how we treat missing values of the covariates.

17. The first *p* value reported is the unadjusted *p* value, and the second is the adjusted *p* value; we use this format throughout the rest of the article.

18. In this specification, we omit the two respondents who were audited in the first round. Respondents who are audited should be very unlikely to donate money; due to the small number of these respondents ($n = 2$), we simply omit them. Furthermore, we are reporting the rank *p* values but the interpretation is the same of the *t* test *p* values.

19.  We report *p* values here from a rank sum test, which does not assume normality, but the results are the same either way.

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## Author Biographies

**Sarah Sunn Bush** is an assistant professor of political science at Temple University. She is the author of *The Taming of Democracy Assistance: Why Democracy Promotion Does Not Confront Dictators* (Cambridge University Press, 2015). Her other research on international politics and democracy has been published or is forthcoming in *International Organization, International Studies Quarterly, The Review of International Organizations*, and *Comparative Politics*.

**Aaron Erlich** is a PhD candidate at University of Washington, Seattle, and from August 2016 an assistant professor at McGill University. His current research interests include the impact of information in developing countries, measuring uncertainty, democratization, and experimental design. Previous work has appeared in *American Political Science Review*.

**Lauren Prather** is an assistant professor of political science in the School of Global Policy and Strategy at University of California, San Diego. Her research interests include public opinion about foreign policy, the political economy of foreign aid, democracy assistance and elections, and experimental methods.

**Yael Zeira** is Croft assistant professor of political science and international studies at University of Mississippi. Her primary areas of interest are political conflict and violence, Middle East politics, and field research methods. In addition to *Comparative Political Studies (CPS)*, her research is forthcoming in *The Journal of Conflict Resolution*.