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READY, SET, VACCINE: THE PATH TO COVID-19 RECOVERY IN LATIN AMERICA

Preparados, listos, vacuna: el camino hacia la recuperación del COVID-19 en América Latina

Em Suas Marcas, Pronto, Vacina: O Caminho Para a Recuperação de COVID-19 na América Latina

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Abstract

The coronavirus pandemic has ravaged countries across Latin America. Although the region continues to suffer, the promise of vaccinations provides reason for hope. As vaccines become more widely accessible in Latin America, public support for and willingness to receive the vaccine will be essential to pandemic recovery. Recognizing this, politicians in the region are already actively publicly promoting vaccination. In this research note, we explore Latin Americans' attitudes on vaccine acceptance as well as the influence of political recruitment for vaccination and both consumption of and trust in news from politicians on self-reported attitudes of vaccine acceptance. We learn that, in general, Latin Americans are receptive to vaccination but that acceptance varies as a function of country, time, and recruitment and, interestingly, that Latin Americans are actually dissuaded from vaccination if encouraged by politicians. We conclude with a discussion and a plea that vaccination campaigns remain separate from political ones.

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Palabras clave: comportamiento político; confianza política; salud pública; COVID-19; vacunación

Resumen

La pandemia del coronavirus ha devastado los países de Latinoamérica. Aunque la región está sufriendo todavía, la promesa de las vacunas da motivos para la esperanza. Mientras las vacunas se vuelven más accesibles en Latinoamérica, el apoyo público y la voluntad de recibir la vacuna serán esenciales para la recuperación de la pandemia. Al reconocer esto, los políticos de la región ya están promoviendo la vacuna. En esta nota de investigación exploramos las actitudes de los latinoamericanos sobre la aceptación de la vacuna y la influencia del reclutamiento político para la vacunación y el consumo y la confianza en las noticias de los políticos sobre la aceptación de la vacuna. Observamos que los latinoamericanos son receptivos a la vacunación, pero la aceptación varía en función del país, el tiempo, y el reclutamiento. Más interesante es que los latinoamericanos son disuadidos de la vacunación si está fomentada por los políticos. Concluimos con una discusión y una petición que las campañas de vacunación permanezcan separadas de las campañas políticas.

Palavras-chave: comportamiento político; confianza política; salud pública; COVID-19; vacunación

Resumo

La pandemia del coronavirus ha devastado los países de Latinoamérica. Aunque la región está sufriendo todavía, la promesa de las vacunas da motivos para la esperanza. Mientras las vacunas se vuelven más accesibles en Latinoamérica, el apoyo público y la voluntad de recibir la vacuna serán esenciales para la recuperación de la pandemia. Al reconocer esto, los políticos de la región ya están promoviendo la vacuna. En esta nota de investigación exploramos las actitudes de los latinoamericanos sobre la aceptación de la vacuna y la influencia del reclutamiento político para la vacunación y el consumo y la confianza en las noticias de los políticos sobre la aceptación de la vacuna. Observamos que los latinoamericanos son receptivos a la vacunación, pero la aceptación varía en función del país, el tiempo, y el reclutamiento. Más interesante es que los latinoamericanos son disuadidos de la vacunación si está fomentada por los políticos. Concluimos con una discusión y una petición que las campañas de vacunación permanezcan separadas de las campañas políticas.

INTRODUCTION1

As some countries begin to recover from the devastating health effects of the COVID-19 pandemic, many continue to suffer from low vaccination rates, increasing rates of infection, and ever-climbing death tolls. Latin America – the hardest hit region in the world accounting for more than 31 % of the COVID fatalities despite having only 8 % of the world's population – is home to many countries that continue to be ravaged by the pandemic (Tharoor, 2021). Leading Latin Americanists partially attribute the pandemic's immense toll on the region

^{1.} The views expressed in this article are those of the author and do not necessarily reflect the official policy or position of the United States Air Force Academy, the Air Force, the Department of Defense, or the U.S. Government. PA#: USAFA-DF-2021-357.

to the inability or political unwillingness of Latin American governments to create unified federal responses to the pandemic. Abers *et al.* (2021), Knaul *et al.* (2021), and Touchton *et al.* (2021) provide evidence in support of these claims, revealing that the type, rigor, and pace of implementation of public policies has varied considerably across states in Argentina, Brazil, and Mexico.

Limited access to vaccinations has continued to thwart pandemic response and recovery in the Latin American region. Although, at the time of this writing, nearly 3 billion vaccines have been administered worldwide, only 250 million Latin Americans have been injected (Holder, 2021). As of July 2021, several Latin American countries including Paraguay, Venezuela, and Guatemala have fewer than 10% of their populations vaccinated. The Pan American Health Organization (PAHO) claims that these low vaccination rates have directly contributed to a doubling in the number of COVID-19-induced deaths in Latin America in the five months prior (Alfonseca, 2021).

Though the Latin American region continues to suffer, the promise of forth-coming vaccinations provides hope. For illustration, the World Health Organization's (WHO) new equal-opportunity COVAX program hopes to distribute 280 million vaccine doses to Latin American countries by the end of 2021, and the European Commission has committed to donating 100 million vaccines to low – and middle-income countries by the end of the year – many of which will end up in Latin America (Harrison, 2021). As vaccines from these and other sources become more widely accessible in Latin America, public support for and willingness to receive the vaccine will be essential to pandemic recovery.

Globally, many politicians have taken it upon themselves to encourage the distribution and acceptance of COVID-19 vaccines. In Latin America, many politicians have leveraged social media outlets, such as Twitter, to urge vaccination in their countries. For example, on 13 July 2021, Mexican President Andrés Manuel Lopez Obrador tweeted, "We call on the population to protect themselves with vaccines against COVID-19" ("Llamos a la población a que se proteja con las vacunas contra #COVID19"). Several days earlier, Argentinean President Alberto Fernández retweeted, "Vaccines and more vaccines to return to the life we want" ("Vacunas y más vacunas para volver a la vida que queremos"). Latin American politicians at subnational levels of government, too, are taking the initiative to communicate directly with their countries' publics and push for vaccination. For example, on 14 July 2021, São Paulo mayor, João Doria, tweeted, "Vaccines save lives... Let's immunize everyone as quickly as possible!" ("Vacinas salvam vidas... Bora imunizar todos o + rápido possível!). Although these politicians' media campaigns may seem constructive on the surface, in contexts of deep political distrust such as those that exist in Latin America, they may prove pernicious.

For politicians' remarks to resonate with their publics and positively influence public behavior, the public needs to have some modicum of political trust and the

perception of a legitimate government. This requisite is all but nonexistent in Latin America. According to Zechmeister and Lupu's (2019) Pulse of Democracy report, political parties are extremely distrusted in Latin America, with the average level of trust in political parties in Latin American countries scoring a mere 28.2 on a 100-point scale. Zechmeister and Lupu (2019) also confirm that trust in both the executive and the national legislature is low and has decreased dramatically across the region between 2004 and 2018/2019. The report provides evidence in support of this claim, stating that "The largest decrease in trust over time has been toward the executive; from 2010 to 2018/19, average trust declined from 55.2 to 42.8 on a 100-point scale, a difference of 12.4 units" (Zechmeister and Lupu 2019, p. 40). Güemes's (2020) recent research confirms the persistence of the trends documented in Zechmeister and Lupu (2019), asserting that Latin American countries have the lowest levels of trust in public administrations globally with only 32 % of Latin Americans considering their governments to be trustworthy (Güemes, 2020). Velasco-Guachalla et al. (2021) case study of Bolivia suggests that low levels of government legitimacy, high levels of political polarization, and routine politicized decision making hampered a coordinated national response to the COVID-19 pandemic to the detriment of the public's health and faith in politicians. Recent political scandals and preferential treatment of elite government officials surrounding COVID-19 vaccine distribution - resulting in the resignation of two ministers in Peru and one in Argentina (Taj et al., 2021) - similarly serve to further deepen political distrust in the Latin American region and may inadvertently lead the Latin American public to ignore politicians' pleas for mass vaccination.

In this research note, we explore Latin Americans' attitudes on vaccine acceptance as well as the influence of political recruitment for vaccination and both consumption of and trust in news from politicians on self-reported attitudes on vaccine acceptance. Specifically, we proceed as follows: First, we explore general attitudes on vaccine acceptance in four prominent Latin American countries (Argentina, Brazil, Colombia, and Mexico). Next, we investigate variation in attitudes across country, time, and recruitment (with an eye to receptivity to recruitment from politicians). Upon learning that Latin Americans are actually dissuaded from vaccination if encouraged by politicians, we, then, estimate regression models to understand the potential underlying influence of political trust. We conclude with a discussion on the implications of our research for vaccination campaigns and with a plea that vaccination campaigns remain separate from political ones.

MIT'S COVID-19 BELIEFS, BEHAVIORS, AND NORMS SURVEY

To assess the relationship between vaccine acceptance, political vaccination campaigns, and political trust, we use data from the Massachusetts Institute of

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Technology (MIT) COVID-19 Beliefs, Behaviors, and Norms Survey (Collis *et al.*, 2020). In collaboration with Facebook and with input from researchers from Johns Hopkins University (JHU), the World Health Organization (WHO), and the Global Outbreak Alert and Response Network (GOARN), MIT fielded a global survey to gauge public beliefs, behaviors, and norms related to COVID-19. The publicly available portion of the survey was fielded on Facebook in sixty-seven countries in nineteen waves (beginning in July 2020 and ending in March 2021). Approximately 3,000 users were surveyed each week, resulting in over 2 million responses (Collis *et al.*, 2020). This survey equips us with the data required to explore our research topics of interest, informing both our primary outcome and explanatory variables.

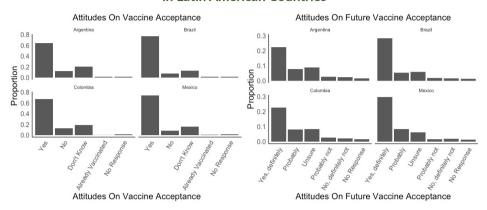
LATIN AMERICAN ATTITUDES REGARDING VACCINE ACCEPTANCE

MIT's COVID-19 Beliefs, Behaviors, and Norms Survey contains data on numerous "signals" related to COVID-19. Of these, we are particularly interested in *vaccine acceptance* ("If a vaccine for COVID-19 becomes available, would you choose to get vaccinated?"), *future vaccine uptake* ("If a vaccine against COVID-19 infection is available on the market, would you take it?"), and *future vaccine uptake following recommendation* ("Would you be more or less likely to take a vaccine against COVID-19 infection if it were made available and recommended to you by each of the following [Friends and Family, Government Health Officials, Politicians, World Health Organization]?"). Figures 1-3 visually depict the distribution of responses to survey questions probing vaccine acceptance in general and following recruitment in Argentina, Brazil, Colombia, and Mexico (the four countries in which these survey questions were enumerated).

Figures 1 and 2 indicate that a majority of Latin Americans self-report that they would accept an existing or future vaccine but that there is variation in self-reported attitudes across both time and countries. Specifically, Brazilians and Mexicans self-report higher levels of receptivity to vaccination than Argentineans and Colombians, and favorable attitudes toward vaccination peaked in both initial and final survey waves (surrounding July 2020 and March 2021) and dipped in the intervening period. Figure 3 suggests that Latin Americans' attitudes towards vaccination differ as a function of the identity of recruiters. Across countries, Latin Americans are most receptive to receiving the vaccine if the World Health Organization encourages them to do so. That said, they also respond warmly to recruitment from friends and family as well as government health workers. In contrast, Latin Americans are unreceptive to the vaccine if politicians encourage them to

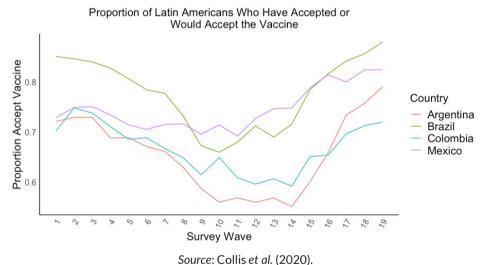
^{2.} See Collis et al. (2020) for more information on the specific dates corresponding with survey waves.

Figure 1. Attitudes on Vaccine Acceptance and Future Vaccine Acceptance in Latin American Countries



Source: Collis et al. (2020).

Figure 2. Proportion of Latin Americans Who Have Accepted or Would Accept the Vaccine³



^{3.} The Chronbach's Alpha is 0.838, suggesting high levels of consistency in responses to these two questions and justifying our decision to combine responses to them in Figure 2.

get vaccinated. In fact, Latin Americans go so far as to express a decreased likelihood of receiving the vaccine if politicians encourage them to get it. Interpreted in tandem, Latin Americans are generally receptive to vaccination but encouragement from politicians decreases their self-reported propensities to get vaccinated. This is unsurprising based on established low levels of political trust in the region. In what follows, we estimate a series of country-specific regression models to discern whether low levels of trust do, in fact, depress Latin Americans' self-reported intentions of getting vaccinated.

Average Value (-1=Less Likely, 1=More Likely Average Values of Vaccine Acceptance Following Recruitment Country 0.5 Argentina Brazil Colombia Mexico Recruiter 0.0 **Politicians** Friends and Family World Health Organization Government Health Officials 0.0 3.5 15 Survey Wave

Source: Collis et al. (2020).

Figure 3. Average Values of Vaccine Acceptance Following Recruitment in Latin America

LATIN AMERICAN VACCINATION INTENTIONS AND POLITICAL TRUST

With country-specific logistic regression models, we explore whether consumption of news from politicians paired with trust in news from politicians influences self-reported vaccine acceptance. As such, our primary outcome variable is the dichotomous vaccine acceptance variable informed by responses to the MIT COVID-19 Beliefs, Behaviors, and Norms Survey question "If a vaccine for COVID-19 becomes available, would you choose to get vaccinated?", with affirmative responses taking on a value of 1 and negative responses taking on a value of 0. Responses to the following two questions from this same survey inform our

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primary explanatory variables – "In the past week, from which of the following, if any, have you received news and information about COVID-19? [Politicians]" and "How much do you trust each of the following as a source of COVID-19 news and information? [Politicians]." Following our descriptive analysis, we anticipate that high levels of exposure to news from politicians and low levels of trust in news from politicians reduce self-reported propensities of vaccine acceptance. Our models estimate both the independent and interactive effect of consumption of news from politicians and trust in news from politicians on vaccine acceptance and control for potential confounding factors including gender, age, education, density in area of residence, level of general health, perception of infection severity, and survey wave. Table 1 reports the primary results of our country-specific logistic regression models.

Table 1 reveals several variables to be statistically significantly associated with vaccine acceptance. With respect to our control variables, Table 1 reports that, in general, those who are younger, are more highly educated, are less healthy, are male, live in population dense areas, and perceive COVID-19 infection to be severe are statistically significantly more likely to self-report vaccine acceptance in comparison with those who are older, are less highly educated, are more healthy, are female, live in less population dense areas, and do not perceive COVID-19 infection be severe. Aside from reporting statistical significance of control variables in explaining self-reported vaccine acceptance, Table 1 also provides evidence in support of our hypotheses. It confirms that, across most Latin American countries (with the exception of Brazil), getting news from politicians is a statistically significant and negative predictor of self-reported vaccine acceptance. However, it asserts that those who trust in news from politicians are statistically significantly more likely to self-report vaccine acceptance. The interactive effect of these factors is only significant in two out of the four Latin American countries considered. We explore predicted probabilities of vaccine acceptance as a function of these two primary explanatory variables in greater detail below in Figure 4.

On the whole, the country-specific predicted probability panels in Figure 4 further corroborate our expectation, expressing the following: First, in most countries, those who distrust news from politicians are significantly less likely to self-report vaccine acceptance than those who trust news from politicians. The difference in propensities of vaccine acceptance across those who do and do not trust news from politicians ranges from 12.36 % in Argentina to 4.19 % in Mexico (as calculated holding all other modeling variables at their mean or modal values). Second, in most countries, for those who distrust news from politicians, increased consumption of news from politicians significantly decreases self-reported propensities of vaccine acceptance. For example, the predicted probability of vaccine acceptance among Argentineans who distrust news from politicians and consume news from politicians is 77.5 %, whereas the predicted probability of vaccine

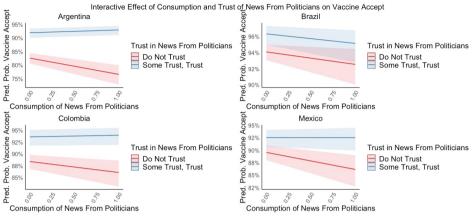
Table 1. Vaccine Acceptance, Political Trust, and Alternative Explanations

Vaccine Acceptance				
	ARG	BRA	COL	MEX
Male	0.25***	-0.28**	0.41***	0.38***
	(0.09)	(0.11)	(0.09)	(0.10)
Age	-0.02	-0.14***	-0.07**	-0.23***
	(0.03)	(0.04)	(0.03)	(0.04)
Education	0.10*	0.32***	0.19***	0.26***
	(0.06)	(0.06)	(0.06)	(0.07)
Residence Density	0.25***	0.03	0.18**	-0.01
	(0.08)	(0.14)	(0.08)	(0.11)
General Health	-0.15***	-0.02	-0.17***	-0.23***
	(0.05)	(0.06)	(0.04)	(0.05)
Perception of Infection	0.72***	0.78***	0.61***	0.82***
Severity	(0.07)	(0.08)	(0.07)	(0.08)
Survey Wave	-0.01*	-0.03***	-0.01*	0.03***
	(0.01)	(0.01)	(0.01)	(0.01)
Politicians News Source	-0.37***	-0.25	-0.21*	-0.32**
	(0.11)	(0.16)	(0.12)	(0.14)
Trust, Some Trust Politicians	0.88***	0.50***	0.65***	0.37***
News Source	(0.13)	(0.17)	(0.14)	(0.13)
Politicians News Source* Trust, Some Trust Politicians News Source	0.52*** (0.20)	-0.04 (0.30)	0.27* (0.23)	0.32 (0.24)
Constant	-0.31	0.62	-0.05	0.57
	(0.39)	(0.53)	(0.39)	(0.49)
Observations	4,975	5,240	4,952	5,187
Log Likelihood	-1,865.53	-1,287.72	-1,853.15	-1,537.05
Akaike Inf. Crit.	3,753.06	2,597.44	3,728.30	3,096.10

Note: *p<0.1; **p<0.05; ***p<0.01.

Source: Collis et al. (2020).

Figure 4. Interactive Effect of Consumption and Trust of News From Politicians on Vaccine Acceptance



Source: Collis et al. (2020)

acceptance among Argentineans who distrust news from politicians and do not consume news from politicians is 83 %. Third, for the percentage of survey respondents who have some semblance of trust in news from politicians, increased consumption of news from politicians marginally increases self-reported propensities of vaccine acceptance. It is, however, important to note that trust in politicians is extremely low in each of the Latin American countries surveyed, with less than 1% of Brazilian survey respondents admitting to trusting news from politicians. Survey respondents in the other three Latin American countries are only marginally more trusting (with 2.4% of Argentineans, 1.4% of Colombians, and 1.5% of Mexicans admitting to trusting news from politicians). These astoundingly low levels of political trust motivated our decision to combine the "some trust" and "trust" categories in our models (as depicted in Figure 4). If we were to have, instead, isolated the "trust" category, we would uncover even stronger independent and interactive negative effects of trust in news from politicians on vaccine acceptance.

In sum, our logistic regression models report findings similar to those from our descriptive assessments: Distrust in politicians and exposure to COVID-19 news messaging from politicians actually depresses self-reported vaccination intentions. As the coronavirus pandemic continues to ravage the Latin American region at the time of this writing, it is imperative that countries in the region revisit the nature of campaigns pertaining to the vaccine. In our concluding session, we discuss the implications of our findings and introduce some important considerations for Latin American countries seeking to motivate their publics to get vaccinated.

CONCLUSION

Although Latin Americans are generally receptive to and eager to get the COVID-19 vaccine, our research findings suggest that news messaging from politicians paired with political distrust and low levels of legitimacy has the potential to dampen this enthusiasm and to prolong the pandemic. Instead of promoting vaccination themselves, Latin American politicians ought to consider highlighting vaccination campaigns championed by actors with the credibility to improve knowledge about and influence attitudes surrounding vaccination (e.g. the World Health Organization and local community leaders). In addition, Latin American politicians may collaborate with more trusted international and societal actors to encourage those who have been vaccinated to share their perspectives and experiences with friends and family members. As COVID-19 vaccines become more accessible in the region from the World Health Organization's COVAX program. the European Commission, and/or other sources, it is important that vaccination campaigns remain separate from political ones; the power of campaigning and effective distribution of the COVID-19 vaccine should lie in the hands of trusted international and community actors, not politicians.

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