

Multilayered Politicized Constructions of Covid-19 Vaccines: A Global South View of Pfizer and Sinovac

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Abstract

Despite their overwhelming public health benefits for pandemic response, Covid-19 vaccines have been subject to political controversy around the world. Multidisciplinary scholarship in the health and social sciences points to a wide range of factors that influence the public's divided views of vaccines. But these factors have largely been considered in relative isolation from each other as independent influences on vaccine beliefs. In this paper, we propose a multilayered politico-psychological model of collective constructions of the Covid-19 vaccines. Borrowing from Montiel and Christie's (2007) theoretical framework, we examine how the Covid-19 vaccines are holistically constructed in relation to interdependent social meanings across micro-level, meso-level, and macro-level socio-ecological layers. Harnessing a mixed methods research design, we apply this framework to analyze a large corpus of Filipino tweets ($N = 229,236$) about the Pfizer and Sinovac vaccines. Micro-level discourses feature competing individual emotions which construct Pfizer as an object of desire and Sinovac as an object of fear. Meso-level constructions invoke collective contexts of information and resource scarcity within which Pfizer is a serendipitous prize while Sinovac is a mandated responsibility. Finally, macro-level constructions embed the Covid-19 vaccines within national and international structures, framing Pfizer as a symbol of political integrity and Sinovac as an instrument of political corruption for government leaders. In conclusion, these multilayered discourses around the Covid-19 vaccines illuminate complex negotiations of agency among a Global South public during the pandemic. We discuss multilevel interventions and politico-psychological implications for public health campaigns more broadly.

Keywords

vaccines, Covid-19 pandemic, discourse analysis, mixed methods, Global South

Vaccines marked a major turning point in the global response to the Covid-19 pandemic (Sachs et al., 2022). But they also exacerbated the social rifts which attended the crisis worldwide (Muldoon et al., 2021; Relihan et al., 2023). Despite their immense benefits in reducing the spread and severity of infections, vaccines were heavily politicized and subject to public controversy (Bor et al., 2023; da Silva Lima et al., 2023; Henkel et al., 2023). Vaccine hesitancy had long been a public health issue even prior to the pandemic (Larson, 2022; Piot et al., 2019). Yet in the context of a lengthy and volatile state of global emergency, the rejection of vaccines by swathes of the public produced unprecedented large-scale consequences (Kerr et al., 2024).

What explains public divisions around vaccines given the medico-scientific consensus on their utility? Research in psychology and the health sciences identifies numerous factors affecting what has been described as a 'continuum' of vaccine beliefs, ranging from acceptance to hesitancy and outright denialism (Dubé & MacDonald, 2022; Piot et al., 2019). Across this literature, numerous factors have largely been considered in relative isolation from each other as independent influences on vaccine attitudes and decision-making. Whereas some studies highlight people's cognitive



evaluation of vaccine features like safety and side effects, others have looked into the influence of broader social and political identities, conspiracy theories and misinformation, and generalized trust or mistrust in scientific, medical, and government institutions (da Silva Lima et al., 2023; Kerr et al., 2024; Larson, 2022; Pourrazavi et al., 2023).

In this paper, we posit the value of viewing these factors not as psychologically separate but interdependently integrated in collective understandings of the Covid-19 vaccines. From this standpoint, we conceptualize a multilayered politico-psychological model that centers a holistic synthesis of micro-level, meso-level, and macro-level social constructions of the Covid-19 vaccines (Montiel & Christie, 2007). Applied to the Global South context of the Philippines, we show how micro-level dilemmas between personal desires and fears are embedded within disempowering meso-level contexts which position vaccines as obtainable only through serendipity while nonetheless imposed as a collective responsibility. Furthermore, these constructions are in turn situated within macro-level structures which variously equate vaccines with either the integrity or corruption of government leaders, thereby politicizing their meanings in broader national and international contexts. Taken together, these insights suggest politico-psychological implications for public health campaigns more broadly, especially in the context of volatile democracies and the Global South (Lanziotti et al., 2022; Muldoon et al., 2021; Uyheng & Montiel, 2023).

Divided Views of Covid-19 Vaccines

Extensive scholarship on vaccine acceptance, hesitancy, and rejection long predates the Covid-19 pandemic, as prior public health emergencies have similarly been hounded by social divides (Piot et al., 2019). Recent studies on Covid-19 vaccines yield findings which echo well-established knowledge in this area, as well as new insights particular to the pandemic context (da Silva Lima et al., 2023; Sachs et al., 2022). For instance, novel considerations for the pandemic have included the distinct structural issues linked to the perception of rushed and insufficient vaccine production during the crisis, alongside the near-simultaneous emergence of multiple brands leading to volatile communication and public confusion (Dubé & MacDonald, 2022).

Psychological and health science research on divided vaccine understandings may be broadly understood along three thematic categories. First, some studies construct a rational model of vaccine decision-making that weighs perceived vaccine benefits against risks. Such approaches, adopting what might be loosely described as a vaccine-centric lens, have seen fairly consistent results around the world (Ackah et al., 2022; Hoy et al., 2022; Lazarus et al., 2023). This highlights a set of shared concerns about vaccines themselves that shape willingness to receive it, such as perceived safety, effectiveness in preventing infection, and risks of side effects.

A second set of studies features a person-centric framework, focusing on relatively stable, internal psychological traits which predict vaccine beliefs. For instance, highlighting the role of cognitive resources, one study suggests that weaker executive function predicts vaccine hesitancy among high-stress individuals (Acar-Burkay & Cristian, 2022; Harber & Vila, 2023; Pourrazavi et al., 2023). Another study looks to traits such as agreeableness, cognitive reflection, and locus of control as predictors of vaccine attitudes. Politico-psychological constructs have also been investigated in this regard, with social dominance orientation and right-wing authoritarianism linked to higher and lower vaccine hesitancy, respectively (Bilewicz & Soral, 2022; Murphy et al., 2021).

Finally, a third research stream investigates intergroup and institutional relations as structuring beliefs about Covid-19 vaccines. Here, vaccines become entangled with broader conflicts and connections between collectives, including intra-national political factions as well as international networks (Breakwell et al., 2022; Stoler et al., 2022). Foregrounding, for example, that vaccines are produced within and identified with particular nation-states, such group-centric studies have inquired into how relationships between vaccine-producing and vaccine-receiving countries shape public vaccine beliefs (Zagefka et al., 2022, 2023). Group memberships have also been associated with divergent information-consuming communities. For instance, group-based reliance on mainstream information sources like traditional news media is better predictive of vaccine acceptance, whereas other groups' dependence on social media and fringe information like conspiracy theories and misinformation drive vaccine hesitancy and denialism (Enders et al., 2022; Murphy et al., 2021).

A Multilayered Model of Social Construction

Throughout the foregoing scholarship on Covid-19 vaccines, the factors affecting divided views traverse various cognitive, social, political, and public health domains. While each disciplinary perspective offers unique insights, prior studies are largely silent on how these seemingly disparate influences are synthesized in collective understanding. As individuals and collectives make sense of vaccines and their acceptance or rejection, how are these diverse considerations accounted for? This question forms the heart of the present work.

Taking a social constructionist position, we take prior results on vaccine beliefs as prompts to explore various modes of active and socially situated negotiations of meaning. We specifically adopt a discursive lens, which emphasizes the use of language in apprehending the social world and orienting toward action within and upon it (Willig, 2015). Discourse analysis in psychology has had a rich tradition of reworking classical psychological formulations of traits and cognitions in terms of social construction (Edwards & Potter, 1992). From this standpoint, we examine how such considerations as vaccine safety and intergroup relations are featured and negotiated in the naturalistic talk and text of members of the public.

To specifically highlight the holistic integration of multiple discourses, we invoke the theoretical framework of Montiel and Christie (2007), which defines the social world in terms of nested socio-ecological layers. Echoing the foundational theorizing of Bronfenbrenner (1979), Montiel and Christie (2007), posit that collective meaning-making takes place among individuals (micro-level), who are situated in collectives (meso-level), which are themselves lodged within states, territories, and global hierarchies (macro-level). Language is thus seen in terms of hierarchical discursive repertoires which emerge from and construct objects and actors across these nested layers in an integrated fashion. More than highlighting their nested structure, this framework also valuably articulates the concept of *reciprocal continuity*: wider layers enable and constrain discursive possibilities within narrower layers, even as narrower layers may agentially exert symbolic and material force upon wider layers to produce social change.

For the present research, we leverage this multilayered model of the social world as an analytical tool to organize our inquiry into public vaccine understandings. In this novel approach, we focus solely on social constructions produced by members of the public, but analytically grapple with how the discourses they employ diversely reference social objects situated within micro, meso, and macro layers of the social world. For example, a micro-level social construction of vaccines might focus on individual thoughts, feelings, and experiences around vaccine brands, whereas a macro-level social construction might equate the promotion of certain vaccine brands with broader government corruption. In repurposing Montiel and Christie's (2007) framework, our approach aims not to merely categorize social constructions across socio-ecological layers, but also to demonstrate their nested and reciprocally continuous interplay in meaning-making about the vaccines.

Vaccines in the Philippines

We apply the proposed multilayered model of collective vaccine understandings to the Global South context of the Philippines. While Covid-19 vaccines were crucial for pandemic response around the world, their production and distribution were far from globally equitable (Lanziotti et al., 2022). Access to vaccines was heavily skewed toward the Global North, which accumulated multiple vaccine brands especially in the early stages of global vaccine rollout. Meanwhile, in the Global South, vaccines became available later, were priced higher, and received limited stocks of various vaccine brands, despite evidence of greater demand and willingness to accept vaccines in lower- and middle-income countries (Solís Arce et al., 2021). These conditions introduced structural complications to the already fraught social conflicts tied to vaccines (Hussain et al., 2022; Moola et al., 2021).

For the Philippines in particular, vaccinations were wrapped up in multiple political controversies which interfaced with these global asymmetries. Locally, vaccine confidence had already reached historic lows as a result of previous scandals involving a vaccine for dengue in 2017 (Lasco & Yu, 2021). As Covid-19 vaccines started to become available globally, further scandals erupted around government officials receiving vaccine doses earlier than the public. Furthermore, while the Philippines received a large supply of Sinovac vaccines from China, then-President Rodrigo Duterte declared that he was waiting for a different vaccine brand to arrive (Cruz, 2021). Meanwhile, for the public, the health

ministry sought to implement brand-agnostic vaccinations upon observing that demand varied considerably when available brands were announced, with stocks of Western-made Pfizer seeing the fastest depletion (Amit et al., 2022).

It is within this contentious political and public health setting that we inquire into multilayered constructions of vaccines in the Philippines. Focusing specifically on the Pfizer and Sinovac brands, we examine public discourses about these two vaccines and locate them across micro, meso, and macro layers. By probing their holistic integration through nested and reciprocally continuous meaning-making, we therefore ask: How did Filipinos socio-ecologically construct Covid-19 vaccines?

Method

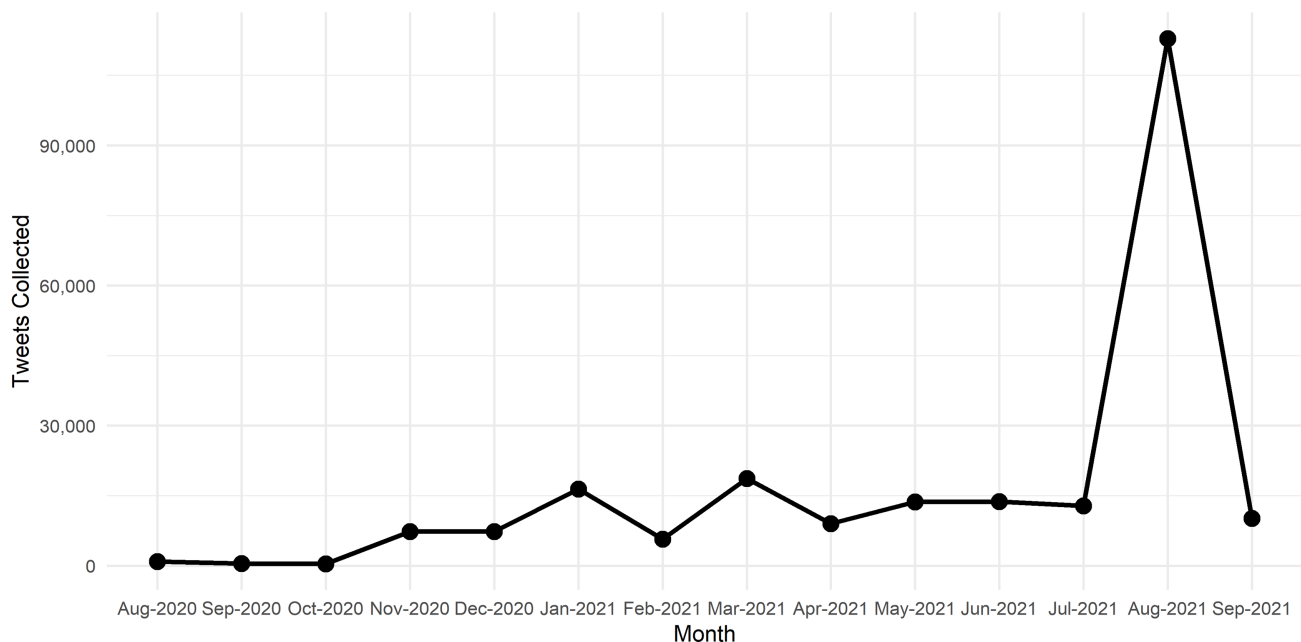
Data Source and Collection

Online social media was used as the data source for the present study. Although social media platforms do not reflect a representative sample of the broader population, they nonetheless serve as an important space for the expression of public views on a variety of often contentious topics (Montiel & Uyheng, 2022). RStudio was used to collect tweets on the Pfizer and Sinovac Covid-19 vaccines. Tweets collected were specifically Filipino language tweets using the Twitter Application Programming Interface (API) through the *academictwitteR* package. *AcademictwitteR* is designed for academic researchers for collecting and storing a large collection of tweets which may include the archival collection (Barrie & Ho, 2021). In collecting the desired tweets, we used the following queries: (#)Pfizer, (#)Sinovac, (#)Astrazeneca, (#)Janssen, (#)Sputnik, (#)Moderna, Bukuna, Vaccine, and (#)Resbakuna. Thus, any Filipino-language tweet containing at least one of these terms is included.

Data collection began in August 2020, the month when the World Health Organization announced the 172 countries that will participate in the COVAX initiative. It was then concluded in September 2021, when an exponential drop in tweets was observed, as shown in Figure 1. The total number of collected tweets was 229,236.

Figure 1

Timeline of Covid-19 Vaccine Brands Tweets



Analytical Procedure

This paper used a sequential mixed-method research design to analyze multilayered discursive constructions of Covid-19 vaccines (Tashakkori & Teddlie, 2021). Here we distinguish two distinct yet interdependent phases: (a) the quantitative phase and (b) the qualitative phase. Text mining was used to analyze a large set of texts to identify quantitatively systematic textual patterns, which could then be subjected to interpretative analysis for qualitative depth (Montiel & Uyheng, 2022).

Quantitative Analysis

First, the dataset was cleaned to remove unnecessary symbols and stop-words, and then segmented into individual words. Second, we computed how frequently each Covid-19 vaccine brand was mentioned, as well as the words which frequently appeared with each brand across the data corpus. For instance, a given word might appear in 10% of tweets which mention Pfizer, but only in 5% of tweets discussing Sinovac. By taking the difference in the salience of words for Pfizer and Sinovac, we quantitatively derived an ordered list of words most closely associated with Pfizer relative to Sinovac (and vice versa) in Filipino online public discourse. Subsequent qualitative analysis could then systematically proceed by using these words as an empirical touchstone to guide interpretative engagement within the larger corpus.

Qualitative Analysis

To facilitate qualitative analysis, each word from the quantitatively derived set was examined in relation to its original utterances. Tweets featuring each word were identified using substring searches to probe how each word figured in discursive constructions of the Covid-19 vaccines. For instance, the word 'Davao' might be computed as strongly associated with the Pfizer vaccine. Returning to utterances which use the word 'Davao' might identify discursive constructions of vaccines in terms of political corruption, as utterances of 'Davao' refer to then-President Duterte's hometown which was alleged to have received priority during the local vaccine rollout.

Two authors independently read the language used to construct Covid-19 vaccines to generate initial codes. Through critical discussions of these different initial readings, discursive repertoires were collaboratively identified by the research team as a whole. Discursive storylines were then constructed for each Covid-19 vaccine brand and iteratively refined by randomly sampling new texts containing high-scoring words to check for disconfirming cases (Antin et al., 2015; Montiel & Uyheng, 2022). A paper trail of each round of analysis also aided in tracing and maintaining the validity of the process of interpretation (Yardley, 2017).

As an integrative analytical step, we then located the identified storylines within their respective socio-ecological contexts. Using Montiel and Christie's (2007) framework as a guide, we linked discourses about individual experiences of vaccines to the micro-layer. Discursive constructions which centered community experiences were designated to the meso-layer. Finally, discourses which underscored the Philippine state and geopolitical relations were assigned to the macro-layer. Once vaccine discourses were situated within socio-ecological layers, we analyzed their interrelationships in the production of holistic constructions of vaccines in the Philippines.

Taken together, we therefore identified multilayered mappings of how the Filipino public collectively constructed the Pfizer and Sinovac vaccines across micro, meso, and macro socio-ecological layers. To enhance the validity of the qualitative phase of this research, we presented our analyses in terms of both their process and outcomes in a workshop setting with Filipino political psychologists not otherwise affiliated with this research in order to refine our interpretations. We also reflexively engaged our own subject positions as Filipino political psychologists living with and in the public health and social psychological contexts of our research. While this provided us with the 'epistemological privilege' of cultural insiders, we acknowledge that our analyses represent a specific and data-driven but not a universal or absolute view of the phenomenon under study (Levitt et al., 2021). For this reason, the discourses we identify do not necessarily apply to other contexts of Covid-19 vaccines, or other vaccination events related to other diseases.

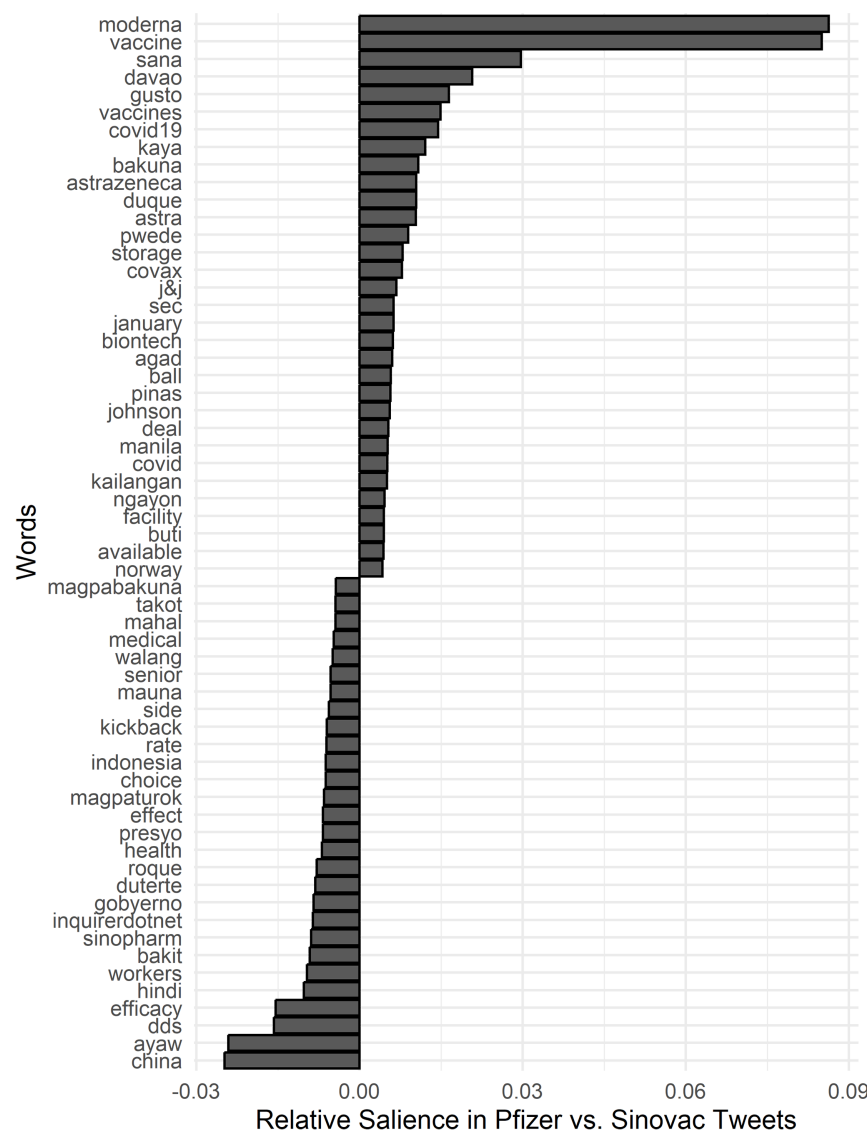
Results

Examining multilayered constructions of Pfizer and Sinovac in the Philippines, we identified three key constructions within distinct socio-ecological discourses of vaccination: (a) micro-level dilemmas between personal desires and fears, (b) meso-level contexts of collective serendipity and responsibility, and (c) macro-level structures of political integrity and corruption. Taken together, we argue that these multilayered constructions showcase holistic negotiations of agency around the Covid-19 vaccines which cut across and integrate individual experience, collective contexts, and broader political structures. We further point out the distinct embeddedness of these discursive processes within the Philippines' Global South position in the geopolitical hierarchy.

Quantitative analysis empirically determined the words which scored the highest in relative associations with the Pfizer and Sinovac vaccines in online Filipino tweets. In Figure 2, we visualize the top 60 words which had the highest difference in salience between tweets mentioning Pfizer and tweets mentioning Sinovac.

Figure 2

Top 60 Associated Words for Both Pfizer and Sinovac



More precise scores are reported in Table 1. Due to the way we computed relative salience, positive values correspond to words which appeared more frequently in tweets about Pfizer, while negative values correspond to words which appeared more frequently in tweets discussing Sinovac.

Table 1

Association Scores of Words Used Together With Mentions of Pfizer (Left) and Sinovac (Right) in a Corpus of Filipino Tweets During the Covid-19 Pandemic

Top Pfizer Words	Score	Top Sinovac Words	Score
Moderna	0.086	China	-0.025
Vaccine	0.085	Ayaw (Do Not Want)	-0.024
Sana (Wish)	0.030	DDS (Duterte Supporters)	-0.016
Davao	0.021	Efficacy	-0.015
Gusto (Want)	0.016	Hindi (No)	-0.010
Vaccines	0.015	Workers	-0.010
Covid-19	0.014	Bakit (Why)	-0.009
Kaya (Possible)	0.012	Sinopharm	-0.009
Bakuna (Vaccine)	0.010	Inquirerdotnet	-0.009
AstraZeneca	0.010	Gobyerno (Government)	-0.008
Duque	0.010	Duterte	-0.008
Astra	0.010	Roque	-0.008
Pwede (Allowed)	0.009	Health	-0.007
Storage	0.008	Presyo (Price)	-0.007
Covax	0.008	Effect	-0.007
J&J	0.007	Magpaturok (Inject)	-0.007
Sec (Secretary)	0.006	Choice	-0.006
January	0.006	Indonesia	-0.006
BioNTech	0.006	Rate	-0.006
Agad (Immediately)	0.006	Kickback	-0.006
Ball	0.006	Side	-0.006
Pinas (Philippines)	0.006	Mauna (Go First)	-0.005
Johnson	0.005	Senior	-0.005
Deal	0.005	Wala (None)	-0.005
Manila	0.005	Medical	-0.005
Covid	0.005	Mahal (Expensive)	-0.004
Kailangan (Need)	0.005	Takot (Fear)	-0.004
Ngayon (Now)	0.004	Magpabakuna (Vaccinate)	-0.004
Facility	0.004		
Buti (Good)	0.004		
Available	0.004		
Norway	0.004		

Note. Scores are defined as the proportion of Pfizer tweets mentioning each word minus the proportion of Sinovac words mentioning each word. Positive values thus indicate a closer association with Pfizer, while negative values indicate a closer association with Sinovac.

Based solely on these quantitative measures, several initial observations may be drawn. First, there are psychological distinctions in public utterances which positively orient toward the Pfizer vaccine—‘sana’ (wish), ‘gusto’ (want), and ‘kailangan’ (need)—in contrast with negative orientations toward Sinovac—‘ayaw’ (do not want), ‘hindi’ (no), and ‘takot’ (fear). Second, while Pfizer is discussed in relation to the local health ministry (‘Sec Duque’), Sinovac seems more immediately associated with the head of state (‘Duterte’, ‘[Presidential Spokesperson] Roque’, ‘DDS [Duterte Supporters]’). Third, these constructions also appear to vary in relation to broader global divisions, as Pfizer is discussed

more often in conjunction with other Western vaccines like ‘Moderna’, ‘AstraZeneca’, ‘J&J’; whereas Sinovac is more closely aligned with ‘China’ and ‘Sinopharm’.

Given these bifurcations in the top-scoring words, how might we characterize Filipino constructions of the Covid-19 vaccines? Table 2 synthesizes our qualitative findings on the prevailing discourses across socio-ecological layers. In the sections below, we provide in-depth characterizations of these discursive storylines.

Table 2

Multilayered Discursive Storylines

Discursive Layer	Discursive Storylines
	Pfizer vs. Sinovac
Micro-Level	dilemmas between personal desires and fears
Meso-Level	contexts of collective serendipity and responsibility
Macro-Level	structures of political integrity and corruption

Micro-Level Discourses of Individual Desire and Fear

In the first layer of analysis, we turn to micro-level individual constructions. Here, Filipinos employ competing emotional discourses of desire and fear in relation to personal experiences of the Pfizer and Sinovac vaccines. In tweets related to Pfizer, uses of words related to hope and desire occurred nearly twice as often than in tweets related to Sinovac, such as ‘sana’ (hope; $\chi^2(1) = 489.02, p < .001$) and ‘gusto’ (want; $\chi^2(1) = 135.35, p < .001$). Conversely, in tweets related to Sinovac, uses of words related to fear and reluctance were likewise about twice as likely than in tweets related to Pfizer, such as ‘ayaw’ (don’t want; $\chi^2(1) = 300.27, p < .001$) and ‘takot’ (fear; $\chi^2(1) = 76.37, p < .001$).

Across Filipinos’ individual narratives of the Sinovac vaccines, fear is thus dominant in micro-level discourses. Such constructions are expressed as in the following:

True! Until now, I’m still not vaccinated since I’m scared of Sinovac...

Them: Why are you so scared if you’re fully vaxxed? Me: Because Sinovac?

My first dose of Sinovac is finished but I don’t know what I should be more scared of: If there are side effects or if there aren’t. I haven’t felt anything yet...

Crucially, constructions of fear in relation to Sinovac are not limited to vaccine hesitancy in the conventional sense. Although the first quote certainly locates the speaker’s unvaccinated status in their fear of Sinovac, the latter two quotes illustrate how fear can be salient even in those who have already had the vaccine. The second quote, in particular, conveys a speaker’s reply to an imagined collective “them”, expressing a fear of infection that persists despite having already been vaccinated because the vaccine may not effectively protect them. Similarly, the final quote illustrates how fear is not limited to discouraging vaccination with Sinovac, but can be produced by accepting the Sinovac vaccination itself. Articulating that they “don’t know what [to] be more scared of”, individual fear is performed not only in precise relation to the vaccine’s known qualities, but also ambivalently around what remains unknown about it. Micro-level discourses of fear thus operate saliently and diversely in how individuals experience and construct the Sinovac vaccine.

Meanwhile, in tweets about Pfizer, discourses of hope and desire are emphatic. Once again standing in contrast to conventional vaccine hesitancy frameworks, messages which invoke these emotions construct the vaccine as a necessary and highly coveted boon to individual lives:

I think I really can’t take being vaccinated with Sinovac or Sinopharm. I really want to get vaccinated. But I’m hoping for Astrazenica, Moderna, Pfizer or Johnson.

I know they said not to be choosy with vaccines, but if I had a choice and the time, I’m hoping for Pfizer or Moderna. Just hoping. Why can’t I hope?

Got vaxx today! Thank you, Lord, you heard my prayer. I've asked you hopefully for a good vaccine that we deserve. To be specific I've been hoping for Pfizer since this is what I've heard was okay and Pfizer it was. I will keep praying for no side effects.

In the first two quotes above, individual desire for Pfizer and other Western vaccines is specifically constructed in opposition to Sinovac and China-made vaccines. For some, desire for one set of vaccines over another is performed to legitimize individual decisions to remain unvaccinated. In such cases, despite the availability of vaccines like Sinovac and the explicit personal goal of being vaccinated, it is the particular desire for these Western vaccines that orients away from being vaccinated while “a choice and the time” are deemed available. Discourses of desire may intersect with discourses of hope like in the second quote, where vaccine preferences are framed as a private prerogative (“Why can't I”) even in a context of public pressure (“they said not to be choosy”). When such desires and hopes find their fulfillment like in the third quote, expressions of joy and gratitude are produced. Here, framed as “good” and “deserved”, Pfizer becomes a symbol of divine blessing within the micro-context of an individual's journey to becoming vaccinated.

Meso-Level Discourses of Collective Serendipity and Responsibility

The second layer of analysis centers meso-level constructions of the vaccines. Here, we observe public accounts of Filipinos' shared navigations of the vaccination process across collective spaces. Constructions of both vaccines share an overarching collective backdrop of scarcity, yet position Pfizer and Sinovac in distinct ways. For Pfizer in particular, meso-level discourses invoke constructions of collective serendipity, framing the opportunity to get the Western vaccine as an instance of good luck amid a dearth of information and resources:

I was so amused yesterday. I was just passing by the mall and then I saw my friends in the vaccination area. After a few moments, I was able to get my first dose, and it was Pfizer. And can you believe I was still taking online classes back then?

Okay, okay. Let's see. My friend was just so lucky that he happened to get sent information about where to get Pfizer. I wish that could have been for all of us. The one I ended up getting was Sinovac.

Hahaha I just had to laugh at the vaccination in Plaridel. Like WTF of all those who got vaccinated, I was the only one that got Sinovac, while the rest got Pfizer. It's not that I'm picky about my vaccine, but why did that have to happen to me... Tsss...

The quotes above consistently invoke utterances that refer to happenstance instead of conscious decision-making. As Filipinos navigate everyday community spaces, Pfizer is constructed as being made available not through individual choice but by “happening” to know the right people or being at the right place at the right time. For the first speaker, being “in the vaccination area” was not an original intention of theirs when they received the Pfizer vaccine, as they were “still taking online classes” and only “saw [their] friends” while “passing by the mall.” In the latter two examples, speakers who did not receive Pfizer also attest to its status as a matter of serendipity. Despite actively seeking out a vaccine, they narrate how others receive Pfizer out of sheer “luck”, from receiving the necessary information on its availability, or simply being selected randomly even within the same vaccination site. In framing the collective experience of Pfizer as one of pure chance, individuals situated within these contexts are disempowered as advocates of their own protection from the pandemic. Such meso-level discourses produce apparent winners and losers of a lottery system where despite commonly held vaccine intentions, neither group assumes agentic control and can only passively express relief or resentment.

Conversely, while Pfizer is designated a privileged prize for a select few, Sinovac is positioned as the collective responsibility of all:

Sinovac is usually what people refuse. But the thing is, many have already had to get Sinovac injections because they don't have a choice. They need to get vaccinated for work, travel, and/or health reasons.

Frontliners are receiving Sinovac, while you are just there being vain on the streets demanding Pfizer or Moderna? I'm ashamed.

It's funny just to think about how the vax center gets so full when it has Pfizer, but it's deserted when what it has is Sinovac. People are so choosy! Don't forget Covid isn't choosy:p

Got my 1st dose Sinovac... No matter what, I have done something good for myself, my family, and our community...

In the first quote, the speaker characterizes a shared context in which despite initial hesitation and refusal, many Filipinos have ended up agreeing to Sinovac “because they don't have a choice”. This absence of choice is linked to various specific obligations—such as “work” or “travel”—but is also anchored in the succeeding quotes to a broader obligation to society at large. One speaker, for instance, invokes the requirement of “frontliners”—essential workers and medical personnel—to receive Sinovac in order to paint those who do not accept the vaccine as “vain”, shameful, and undeserving of their refusal. Against a backdrop of a pandemic that is not “choosy”, a meso-level discourse of collective responsibility positions people who are nonetheless “choosy” as deviant and hypocritical. While such constructions can be punitive, others like in the fourth quote may affirm such responsibilities to the collective; in doing so, they accord their to receive Sinovac—if not with freedom—then with dignity.

Macro-Level Discourses of Political Integrity and Corruption

Finally, our third layer of analysis underscores macro-level politics. Here, discursive constructions shift from individual and community experiences and embeds the vaccines within wider national and international structures. In particular, Sinovac vaccines are positioned as evidence of state corruption:

It's okay even with a low efficacy level as long as we are protected even for a little... But the problem is they profited so much from the price. Sinovac became the same with Pfizer while in Indonesia they got Sinovac at a lesser price. Too much kickback...Tsk.

Duterte Looked for Chinese Investors: West Philippine Sea, Spratly Islands, Scarborough, POGO (Chinese-run Casinos), Build Build Build, Sinovac, Chinese Vaccine, CCP (Communist Party).

Duque wasted the opportunity to get Pfizer over Sinovac. Can you blame the people who do not want China? They keep stealing our territory and started the pandemic. Our country is just waiting for donations from the US while we continuously buy Sinovac and Sinopharm, vaccines that Sara Duterte herself doesn't want.

In the quotes above, the Philippines' acquisition of mostly Sinovac vaccines is constructed not as a sound public health decision, but as advancing foreign interests and lining the pockets of a select powerful few at the expense of the greater good of the Filipino people. Such pronouncements may strikingly accept the “low efficacy level” of the vaccine if obtained in good faith. But instead, the vaccines are associated with “kickback” funds that benefit corrupt officials for choosing Sinovac. More broadly, Sinovac is also situated within a broader condemnation of the government for a longer-term pattern of supporting China's interests over the Philippines'. From this standpoint, this corruption in the vaccine procurement process ultimately legitimizes vaccine refusal, as it underlies both the material injustice of costing “the same with Pfizer” despite lower effectiveness, and its moral association with China, which is framed as “stealing [Philippine] territory”. Moreover, condemnations of the vaccine and its attendant politics are amplified by the assertion that the president's daughter Sara Duterte herself does not want the vaccine which is foisted upon Filipinos. Within this macro-level discourse, Sinovac is thus made an unacceptable metonym of national leaders' selfish betrayal of the people in a time of crisis.

Such macro-level discourses of national corruption are heightened in contrast to constructions of Pfizer, especially in relation to the West:

Why there is no Sinovac in first world countries especially in America even if Biden is known to be more friendly with China – Why will the US settle for AstraZeneca and Sinovac when they have the best vaccines like Pfizer and Moderna?

In Europe and America, Sinovac is not known. That's the reason why they only allow people who are vaccinated with Astra, Moderna, JJ and Pfizer.

Go to America and buy the vaccine that you want. We have been saying that it is hard to procure Pfizer because all countries in the world want to have it.

Whereas Sinovac is equated with local corruption and betrayal, vaccines like Pfizer are associated with the political integrity of international governments who choose this vaccine for their people. For example, the first speaker recognizes that the United States desires “friendly” relations with China, yet its government does not “settle” for vaccines like Sinovac when “the best” are available. In other words, despite matters of diplomatic expediency, “the best vaccines” remain the priority. In magnifying such actions of the United States, these utterances by contrast condemn the Philippine government's inability to do the same rather than “settle” for Sinovac, which is deemed inferior. Strikingly, such idealizations of Pfizer as a symbol of Western leaders' political integrity are likewise lodged within the public's reflexive acknowledgment of the Philippines' Global South geopolitical context. The second speaker, for instance, reflects on how Filipinos' reliance on Sinovac will result in their vaccination status not being recognized in the Western settings of “Europe and America”, while the third speaker mourns how it is difficult to procure “the vaccine that you want” when “all the countries in the world” are the Philippines' competition. Macro-level discursive constructions of Pfizer as a signifier of national political integrity thus serve not only to underscore top-down misuse of power by Philippine leaders, but also to illuminate the Filipino people's overwhelming global position of helplessness from their inability to access it.

Discussion

Our results underscore the importance of dissecting public constructions through multilayered analysis. Utilizing a mixed methods approach, we initially employed quantitative analysis to identify the words most closely associated with Pfizer and Sinovac COVID-19 vaccines. Subsequently, employing qualitative analysis, we reflexively interpreted the meanings associated with each vaccine brand within the framework we proposed. This section discusses several conceptual and practical insights of our study, touching on issues related to: (a) understanding contextualized vaccine orientations in the Global South, (b) cultivating multilayered political trust, and (c) broadening social psychological inquiry in societal contexts of public health and beyond.

Contextualized Vaccine Orientations in the Global South

Our results reveal two polarized constructions between Pfizer and Sinovac COVID-19 vaccine brands. However, these constructions are situated across various layers of interpretation that interact with each other (Montiel & Christie, 2007). Consequently, we emphasize the importance of shifting from atomized views of vaccine ‘hesitancy’ as an individual attitude, toward comprehending personal-in-political contexts to shared and collective vaccine orientations (Bilewicz & Soral, 2022; da Silva Lima et al., 2023; Murphy et al., 2021; Stoler et al., 2022). In our analysis, we illustrated in the micro layer a strong preference for Pfizer and fear of Sinovac. Yet these seemingly personal preferences operate within the constraints of both the meso and macro layers. In the meso layer, it becomes evident how one's micro-level preference can only materialize—if not by sheer fortune—in the presence of a privileged network of individuals or an elevated position in society. Moreover, the significance of such networks is mirrored in the macro layer, where the Philippines itself occupies a subjugated position of reliance on wealthier nations—even those deemed to harm the country in the geopolitical arena—for vaccine supply.

Emotional discourses of desire and fear should be considered within these tight hierarchies, producing distinct subject positions of systemic frustration and coercive compliance which shape a distinctly Global South construction of

Covid-19 vaccination (Solís Arce et al., 2021; Uyheng & Montiel, 2023). For individuals living in globally marginalized societies in the vaccine economy, even a strongly professed desire to be vaccinated can result in delayed vaccination while 'better vaccines' are awaited without guarantee. Conversely, local communal contexts of impoverishment and scarce medical resources may force even a public fearful of vaccines to prioritize collective survival over personal preferences and broader political considerations. Strikingly, the latter findings stand in meaningful contrast to observations in several Western countries where self-interest predicted moral condemnation of other people's public health compliance (Bor et al., 2023), highlighting the mobilizing potentials for discourses of community care in tight cultures in the Global South (Gelfand et al., 2011). But taken together, these findings also prompt broader inquiry beyond vaccine attitudes and uptake as indicators of success in public health interventions, when perhaps their decontextualized prioritization elides or derides holistic questions of vaccine dignity (Dubé & MacDonald, 2022; Lanziotti et al., 2022; Sachs et al., 2022).

Cultivating Multilayered Trust

Critical to questions of dignity in the vaccination process is the role of trust in promoting vaccine confidence. In our study, the trustor refers to the public, which expresses its trust in the Covid-19 vaccines not as an isolated social object, but one which cuts across multiple socio-ecological layers. Our findings thus prompt considerations for cultivating a *multilayered trust* for future public health interventions and crisis communications more broadly (Lasco & Yu, 2021; Mendoza et al., 2021). In this work, trust was called into question in personal emotions directed toward the two vaccine brands. But mistrust was also cultivated in the meso layer's collective construction of arbitrariness in vaccine distribution and in the macro layer's structural framing of vaccine procurement as a corrupt process. Responding to such concerns embedded in public discourse requires nuanced processes of leadership and communication that similarly traverses socio-ecological layers. We particularly suggest: (a) targeted communication strategies, (b) transparent processes, and (c) active partnerships (Hoy et al., 2022; Hussain et al., 2022; Montiel et al., 2023; Moola et al., 2021).

To accomplish these aims, it is insufficient to solely promote the medical specifications of the vaccine brands. Communication efforts should also focus on informing the public about vaccine distribution, encouraging influential figures to promote vaccination, and addressing political issues related to the vaccines. Reliable communication and procedurally fair distribution would equalize opportunity and ease meso-layer constraints to vaccine acquisition. Government officials and well-known community figures could also lead by example and publicly receive vaccines across the spectrum of available brands to dampen the sharp divide in personal emotional constructions of different vaccine types. Enhanced transparency in the government's vaccine procurement process with other countries is also vital. Efforts should be made to alleviate public tensions and doubts by disclosing details of the government's dealings with other nations. Moreover, such processes cannot be purely top-down. Finally, in line with the reciprocally continuous nature of socio-ecological layers of meaning construction, public stakeholders also need to have a voice in how such decision are made and what collective values are considered in designing and implementing such interventions to be successful.

Holistic Social Psychologies of Crisis and Leadership

Finally, we reflect on the broader utility of holistic approaches to social psychologies of crisis and leadership (Bronfenbrenner, 1979; Montiel & Christie, 2007; Muldoon et al., 2021). The socio-ecological approach taken here is one promising direction in this regard. By embedding traditionally psychological factors like emotions within their meso-level community contexts and macro-level political structures, we probe deeper understandings of how particular forms of fear and desire for vaccines might emerge. Moreover, we highlight multiple pathways by which the same wider constraints can be acted upon, thereby broadening vaccinations from an issue of attitude or behavioral change, to one also of collective dignity and political justice. From this standpoint, both scholarly analysis and practical applications benefit from more comprehensive dialogue between disciplines as well as with the rich complexity of social reality itself.

Advancing such approaches in social psychology, especially for questions of crisis and leadership, will require conceptual as well as methodological innovation. Here, we utilized large-scale computational methodologies in tandem with reflexive qualitative interpretation to provide analytical breadth and depth (Montiel & Uyheng, 2022; Tashakkori & Teddlie, 2021). But more traditional study designs and techniques may also benefit from a holistic theoretical

perspective that considers multilayered contexts. For instance, this study did not tackle directly how these discourses might empirically link to actual vaccination behaviors, either from those who uttered them or those who might be exposed to such patterns of meaning-making. Such questions can be answered experimentally or with survey designs which account for the contextually embedded social constructions identified here. Moreover, while we examined social constructions of Covid-19 vaccines through the invocation of objects across socio-ecological layers, our data itself primarily had to do with public utterances. Other data sources, such as government talk and institutional documents, could allow for complementary analyses of how meaning-making also emerged from these wider layers.

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