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Choices around Vaccinating Children Against COVID-19

MOSAIC Data Brief

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MOSAIC Data Brief Series

MOSAIC (Measuring Online Social Attitudes and Information Collaborative) is a collaboration between SSRS, Georgetown University, and the University of Michigan. This collaboration will focus on understanding how to leverage survey data and social media data to better capture public opinion in reliable, valid, and scientifically rigorous ways. This data brief series is intended to share public opinion results to inform researchers and decision makers with information about attitudes in the United States related to different aspects of the COVID-19 pandemic. Data briefs will utilize open-ended survey responses, social media posts, and/or both in order to gain different perspectives on public attitudes.

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Despite authorization from the FDA beginning in October of 2021, in early 2022, rates of vaccination in the youngest eligible cohort, 5-11 year olds, remain low, with only about 40% of this group fully vaccinated as of July 2022 (Kaiser Family Foundation)[1]. Rates of vaccination have dropped precipitously from their peak in November 2021, suggesting a lack of enthusiasm to vaccinate this age group. Likewise, vaccination rates of children under five peaked just a few weeks following their approval, suggesting vaccinating young children against COVID-19 in the U.S. will continue to be an uphill battle (Kaiser Family Foundation)[2]. This highlights the importance of understanding why parents are not eager to vaccinate their young children. Though children are at lower risk from COVID-19, they do still rarely experience significant complications, and are also a vector of the disease to more vulnerable populations.

To investigate choices around pediatric vaccination, we leverage a unique dataset[3], which asks several key questions. First, whether a parent is vaccinated or not, along with reasons for getting vaccinated or remaining unvaccinated – this is asked as an open-ended question, so we can analyze the parents' own words. Second, whether their K-12 children are vaccinated or not, also with accompanying reasons (note that we cannot distinguish between 12-17 year olds, who were first eligible in May 2021 and had a relatively high vaccination rate (about 50% at the end of 2021, per Kaiser Family Foundation)[4], and 5-11 year olds, who were not eligible until October 2021 and have a much lower vaccination rate. This does NOT include children under five who were not eligible to be vaccinated until June 2022). Together this produces a typology of possible parent-child dyads (see Table 1).

	Parent Vaccinated?	
Child Vaccinated?	*Yes*	*No*
Yes	Fully vaccinated household	Parent hesitance
No	Child hesitance	Fully unvaccinated household

Table 1: Set of Possible Parent-Child Vaccination Statuses

This provides a series of useful comparisons. First, what are the frequencies of these four different states? This information alone helps us to understand the source pediatric COVID-19

[1] Lopes, L., Hamel, L., Sparks, G., Montero, A., Presiado, M., & Brodie, M. (2022). KFF COVID-19 Vaccine Monitor: July 2022. KFF [Jul 26, 2022]

[2] Kates, J., & Oum, S. (2022). COVID-19 Vaccination Rates Among Children Under 5 Have Peaked and Are Decreasing Just Weeks Into Their Eligibility. KFF [Jul 22, 2022]

[3] Our questionnaire was distributed via the web to a set of 1,000 participants from our nationally representative panel. Data were weighted to represent the target U.S. adult population. More information about the survey methodology is available at the end of this brief.

[4] Palosky, C. (2021). Half of Parents of Adolescents 12-17 Say Their Child Has Gotten a COVID-19 Vaccine, though Uptake Has Slowed. KFF [Dec 9, 2021].

vaccine hesitation. Consistent with other studies, we find that the majority of households are fully vaccinated, with the second highest category consisting of vaccinated parents with unvaccinated children, followed by fully unvaccinated households. Only a very small (2.4%) proportion of households consist of a vaccinated child with an unvaccinated parent (Table 2). While children's vaccine status did not different significantly across parent income groups, there were large differences across parent political party and parent education level. Consistent with the Kaiser Family Foundation's findings, parents who describe themselves as Democrats and parents with Bachelor's degrees or higher were significantly more likely to choose to vaccinate their children (Figure 1). Parents who describe themselves as Independent are split (51% children vaccinated and 49% children not vaccinated), while Republican parents choose to vaccinate their children only 39% of the time.

	Parent Vaccinated?	
Child Vaccinated?	*Yes*	*No*
Yes	51.9%	2.4%
No	24.0%	21.6%

Table 2: Percentages of Parent-Child Vaccination Statuses

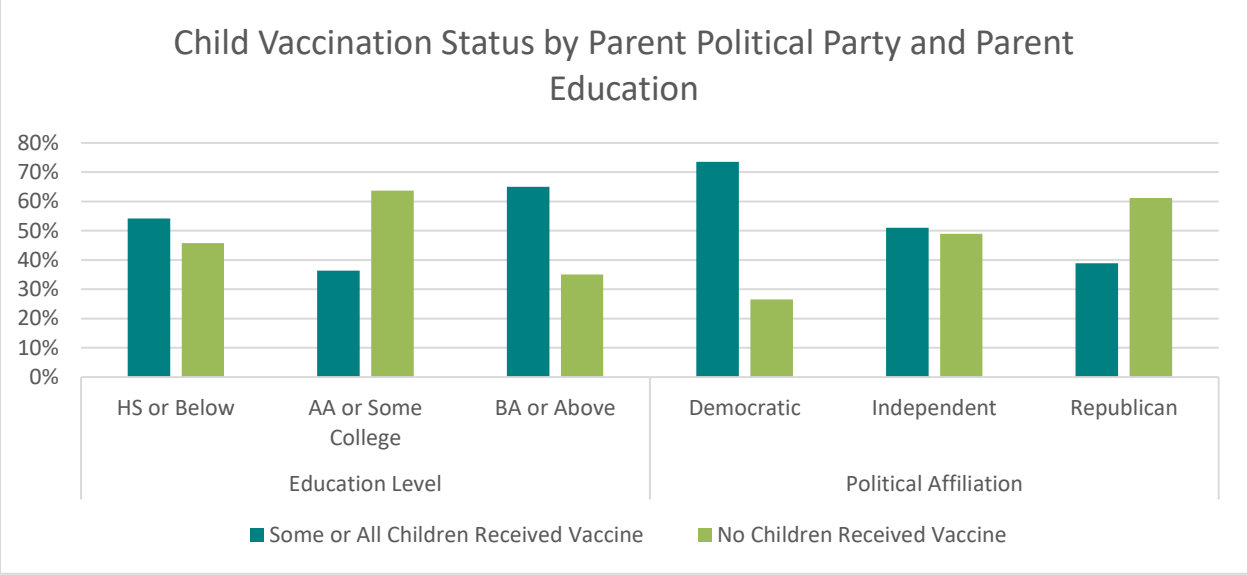

Figure 1: Percentages of Parent-Child Vaccination Statuses

Reasons for Vaccination

Second, how do different pairs of vaccinated/unvaccinated parents and children compare in terms of how the parents talk about why they did or did not get vaccinated, and why they did or did not get their child(ren) vaccinated?

The most common reasons for receiving the COVID-19 vaccine provided by parents were by far that they wanted it for personal safety or health reasons, and that they wanted to protect others – these two reasons dominate all others, no matter what type of household we consider. Health and safety reasons were also more common a reason for fully vaccinated households, perhaps because those worried about the effects of COVID-19 would be more likely to quickly vaccinate their children. Those from partially vaccinated households – with a vaccinated parent but an unvaccinated child – were slightly more likely to cite protecting others, perhaps because they wanted to protect their children as they were not yet receiving a vaccine. Along those lines, parents are far more likely to say they decided to vaccinate to protect others than are non-parents (Figure 2).

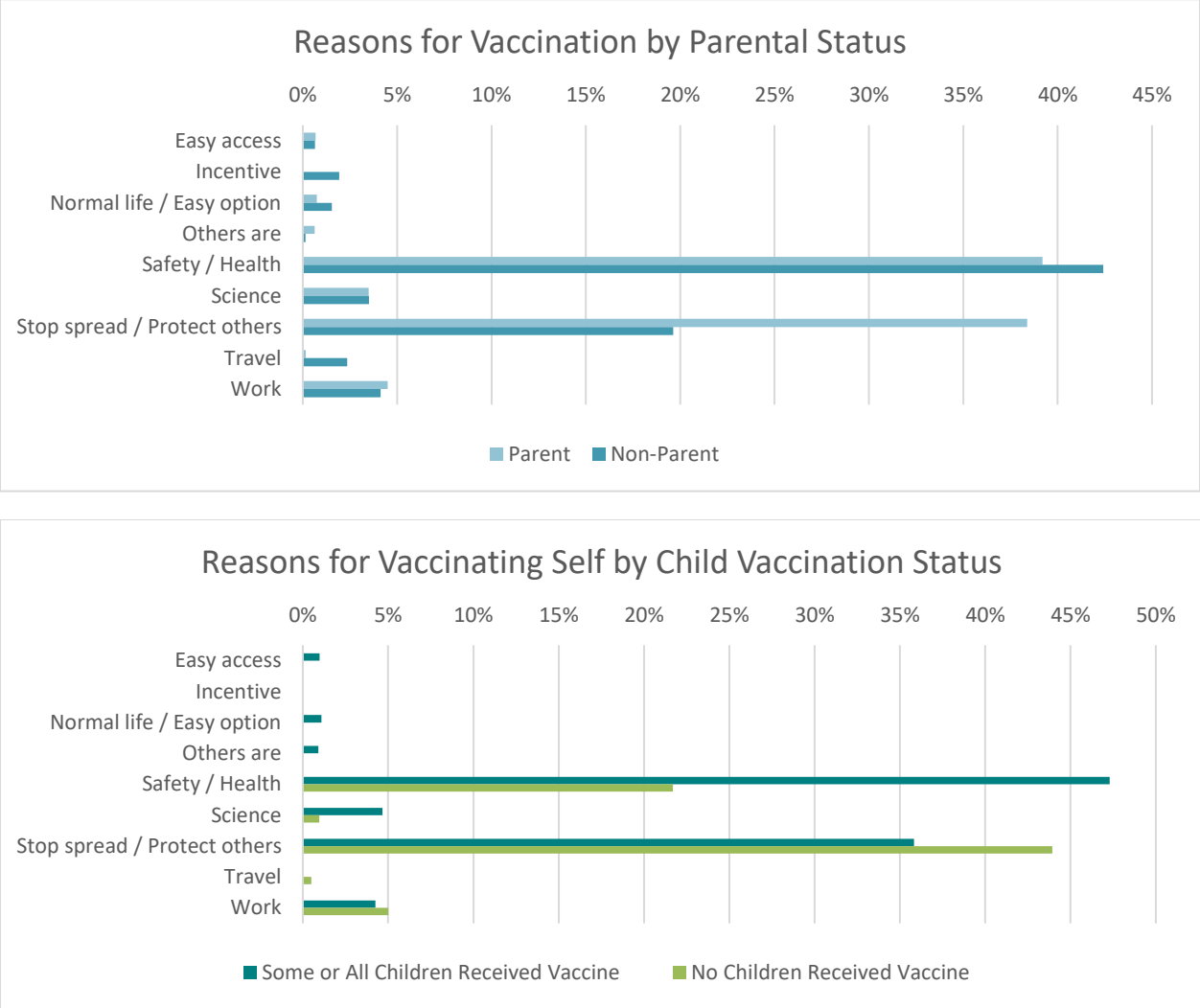

Figure 2: Reasons for Adult Vaccination

For parents that chose to not receive the vaccine, the most common reasons for their decision included that they had already had COVID-19, that they did not trust either the government or the medical system, and that the vaccines were developed quickly and it was too early to take them. Only a very small subset of our panel participants (2%) were not vaccinated themselves

and chose to vaccinate their children. Therefore, it is difficult to evaluate trends for this subset, but none of this small group cited religious reasons, distrust in science, anti-vaccine beliefs, or general misinformation. Parents are much more likely than non-parents to cite previous COVID-19 infection, lack of trust, and concerns about the speed of development as reasons not to get vaccinated, and much less likely than non-parents to mention side effects as a reason (Figure 3).

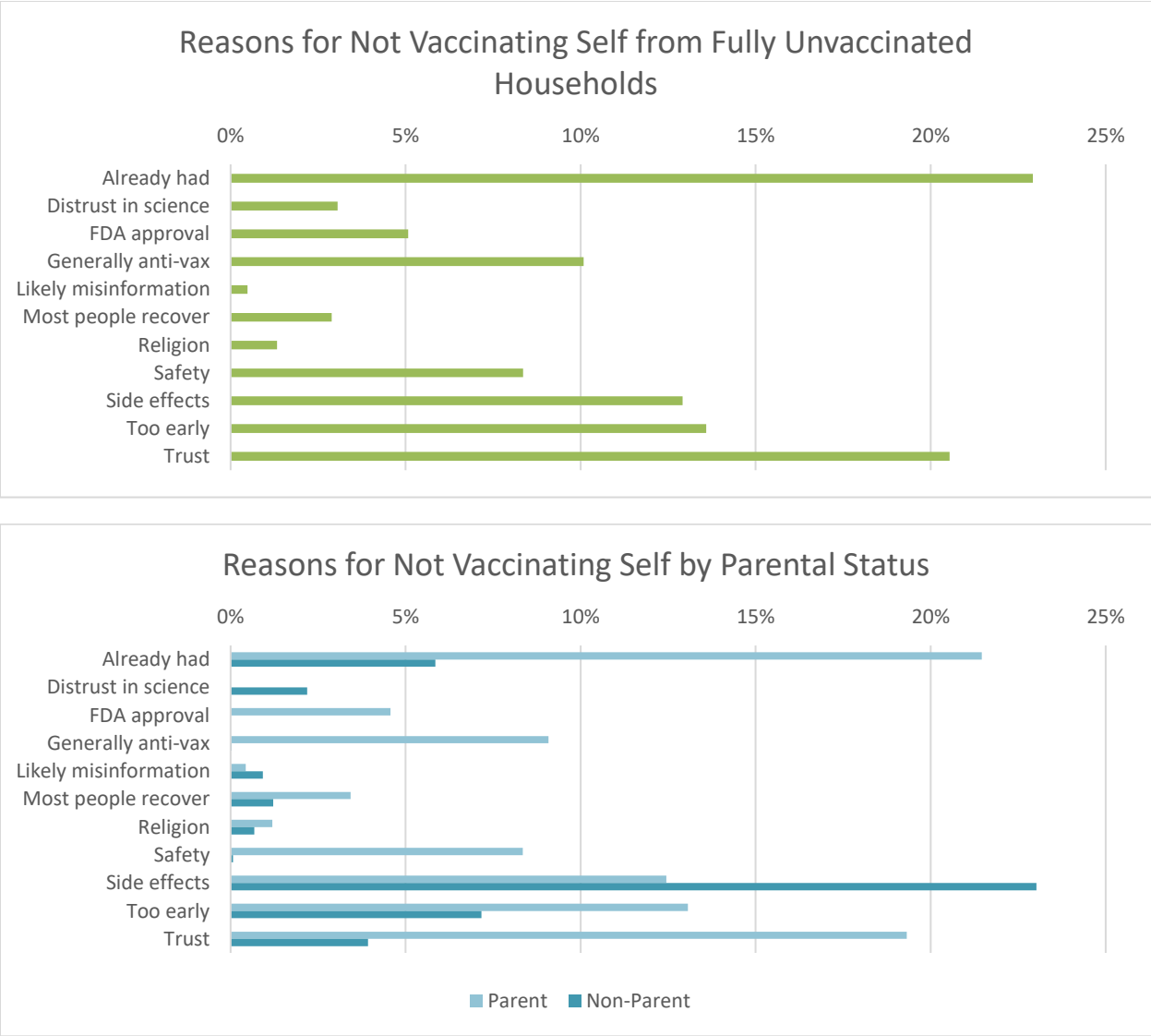

Figure 3: Reasons for Adult Vaccine Hesitance

The top reasons for choosing to vaccinate their children given by parents were by far that they wanted it for the child's safety or health reasons, they wanted to protect others, and school requirements. Of the very small subset of our panel participants who were not vaccinated themselves and chose to vaccinate their children, this group chose the child's safety and protecting others as the reason for vaccinating their children.

For parents that chose to not give their child the vaccine, the most common reasons given were that it was too early, that they didn't trust either the government or the medical system, and that the child was too young. For parents that were vaccinated themselves, they were more likely to respond that it was too early or the child was too young. For fully unvaccinated households, the parent was more likely to respond that they did not trust these larger systems, it was too early, and they did not believe the vaccine was safe for their child.

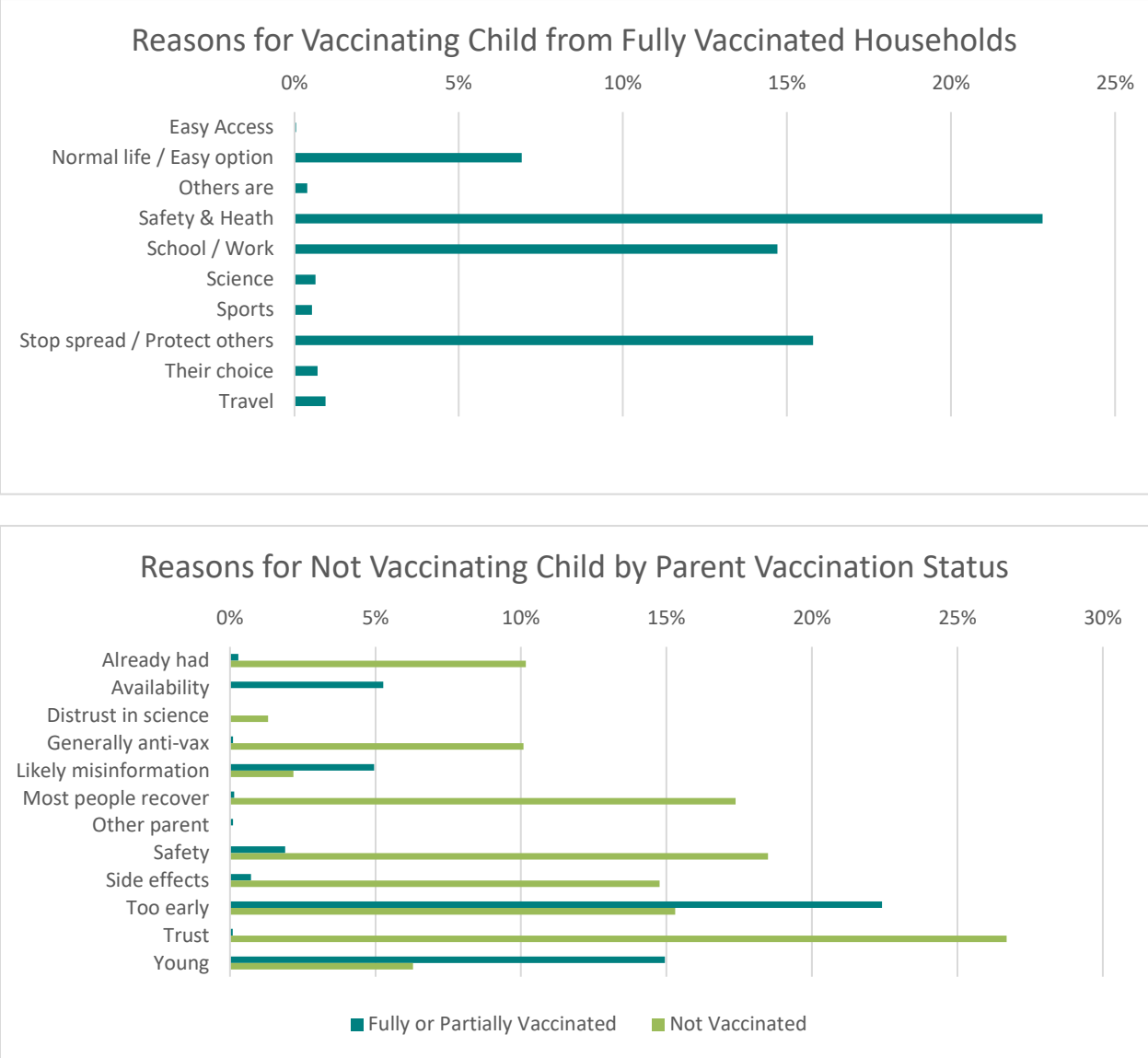

Figure 4: Reasons for Child Vaccination Status by Child Vaccination Status

Fully Vaccinated Date as an Indicator for Pediatric Vaccination

Finally, as a further test of the general enthusiasm for pediatric vaccination, we consider *when* parents received their own vaccine, and how that relates to whether or not their child is vaccinated. If the early adopters of the COVID-19 vaccine were also the ones most likely to

vaccinate their young children in the first few months of availability, that might indicate a general inclination towards vaccination. If a different pattern is seen, it might suggest an alternative motivation.

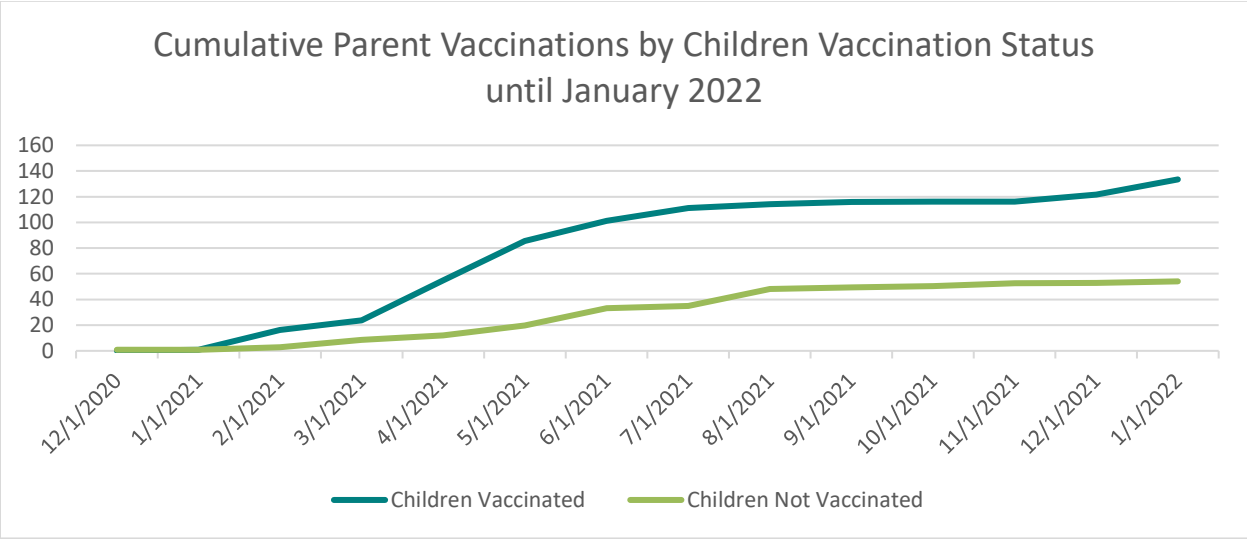

Figure 5: Cumulative Vaccinations of Parents by Children Vaccination Status

As we can see from the graph above, parents who by January 2022 chose to vaccinate their eligible children tended to be earlier vaccine adopters themselves. The average date for vaccination in that group was approximately a month ahead of the group that chose to not yet vaccinate their children by January 2022.

Conclusions

Overall, the pattern of results suggests that we are unlikely to see increased uptake of pediatric COVID-19 vaccinations in the near future. We would expect this pattern to hold with children under five, the most recently eligible portion of the population, and indeed early results suggest that parents are even more hesitant to vaccinate the very young than they were to vaccinate their 5-11 year olds (Kaiser Family Foundation)[5]. The reasons for not vaccinating – including lack of trust, the (accurate) belief that most people recover or it is not dangerous for young children, concerns about safety and side effects, and a general belief that vaccines were produced too quickly – are complex and varied. Likewise, interventions targeted at increasing pediatric vaccine uptake must address the nuanced feelings and attitudes that parents have around the COVID-19 vaccine.

[5] Kates, J., & Oum, S. (2022). COVID-19 Vaccination Rates Among Children Under 5 Have Peaked and Are Decreasing Just Weeks Into Their Eligibility. KFF [Jul 22, 2022]

Methodology

Survey & Social Media Data Collection. The MOSAIC recruitment survey was conducted via the SSRS Opinion Panel and invited U.S. adults aged 18 and older who use the internet to participate. The SSRS Opinion Panel is a probability-based web panel of U.S. adults (including Hawaii and Alaska) and is recruited randomly based on a nationally representative ABS (Address Based Sample) probability design. Full Panel data collection was conducted via the web from March 11 – June 13, 2021, resulting in a sample of 9,544 panelists in English (9,468) and Spanish (76). Data were weighted to represent the target U.S. adult population. A subset of the panel participated in new data collection via the web from January 27- February 9, 2022, resulting in a sample of 1,000 participants. Data were weighted to represent the target U.S. adult population.

Topic Coding of Open-ended Responses. The exact responses to open-ended questions were transcribed by interviewers and coded using semi-supervised topic modeling. Preprocessing steps included capitalization standardization, punctuation removal, and stopword removal. Frequently occurring words and phrases were identified by identifying the frequency with which respondents used different unigrams, bigrams, and trigrams. Experts looked through the list of frequently occurring words and phrases, identifying ones that could be used to represent seed topics. These seed topics were inputs into a generative topic model and used to generate more complete topics and possibly new topics. This topic list was manually adjusted by experts. For some of the smaller subsamples, the full set of open-ended responses was double hand-coded.

Suggested Citation

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