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Influence of Perceived Adolescent Vaccination Desire on Parent Decision for Adolescent COVID-19 Vaccination



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A B S T R A C T

Purpose: The purpose of this study was to assess the influence of adolescents' desire for COVID-19 vaccination on their parents' vaccination decision for their adolescent.

Methods: We surveyed an internet-based panel of 1,051 parents of 1,519 adolescents aged 11–18 years from February to March 2021 about their adolescent's desire for COVID-19 vaccination and whether they consider this desire in their vaccination decision for the adolescent. We used multivariable Poisson regression to assess associations with parent-stated likelihood of adolescent vaccination.

Results: A total of 58.3% of parents reported that they and their adolescents had the same vaccination desire; similarly, 58.3% considered their adolescent's desire in their vaccination decision. These latter parents were more likely to vaccinate their adolescent than parents who did not consider their adolescent's desire (adjusted risk ratio = 1.25 [95% confidence interval = 1.05–1.50]).

Discussion: Most parents considered their adolescent's desire for COVID-19 vaccination. These parents were more likely to state that they will have their adolescent receive a COVID-19 vaccine.

IMPLICATIONS AND CONTRIBUTIONS

This study demonstrates that parents do consider their adolescents' perceived desire when deciding whether or not to have their adolescents get the COVID-19 vaccine. Promotion of adolescent COVID-19 vaccination acceptance can allow them to act as influencers in parental vaccine decision-making.

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Adolescent COVID-19 vaccination will be critical for adolescent and population-based health protection [1,2]. Parents'

decision to have their adolescent vaccinated possibly exists on a spectrum of certainty, with some parents certain of their decision and others being less certain. It is unknown whether parents' position on the vaccination decision spectrum is influenced (positively or negatively) by their adolescents' own desire for vaccination. One study of human papillomavirus vaccination showed that when parents were uncertain about vaccination, they were more likely to side with the adolescent's desire [3]. Furthermore, studies have found that when adolescents are

Conflict of interest: The authors have no conflicts of interest to declare.

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Table 1
Parent demographics as predictors of adolescent influence and parent likelihood of adolescent vaccination^a

	Weighted N (%)	Adolescents' desire is considered in parents' vaccination decision		Parent is likely to get adolescent vaccinated	
		%	aRRs and 95% CIs	%	aRRs and 95% CIs
Total parent-adolescent dyads	1,519				
Parent's gender					
Female	888 (58.5%)	56.2%	- REF -	45.4%	- REF -
Male	631 (41.5%)	61.4%	1.08 (.93, 1.26)	58.3%	1.13 (.96, 1.34)
Parental race/ethnicity					
Non-Hispanic White	843 (55.5%)	56.1%	- REF -	48.4%	- REF -
Non-Hispanic Black	230 (15.1%)	66.5%	1.20 (.97, 1.49)	36.4%	.75 (.54, 1.02)
Non-Hispanic Asian	68 (4.5%)	69.0%	1.06 (.75, 1.51)	70.1%	.90 (.62, 1.30)
Non-Hispanic other	55 (3.6%)	54.4%	.96 (.63, 1.47)	49.3%	.98 (.60, 1.61)
Hispanic	320 (21.1%)	56.3%	.91 (.70, 1.19)	63.9%	1.14 (.87, 1.49)
Born in the United States					
Yes	1,271 (83.7%)	56.9%	- REF -	45.4%	- REF -
No	247 (16.3%)	65.5%	1.12 (.86, 1.45)	78.0%	1.51 (1.18, 1.95)
Parent education level					
High school graduate or less	532 (35.0%)	58.8%	- REF -	43.0%	- REF -
Some college	503 (33.1%)	56.7%	.98 (.80, 1.20)	42.6%	1.02 (.80, 1.31)
Bachelor's degree or higher	482 (31.7%)	59.4%	.95 (.78, 1.15)	67.5%	1.49 (1.21, 1.83)
Lives with partner/married					
Yes	1,133 (74.6%)	58.1%	- REF -	52.8%	- REF -
No	385 (25.3%)	58.9%	1.04 (.86, 1.25)	44.8%	.90 (.72, 1.13)
Adolescent's desire is considered in parent's decision for adolescent vaccination					
Yes	884 (58.3%)				1.25 (1.05, 1.50)
No	632 (41.7%)				- REF -

aRRs = adjusted risk ratios; CIs = confidence intervals.

^a Results are reported as adjusted risk ratios and 95% confidence intervals where significant values are bolded and represent *p* values <.05.

involved in decision-making for common childhood vaccines, vaccination rates increase [3,4]. Similar studies are needed regarding adolescent COVID-19 vaccination.

An adolescent's desire for COVID-19 vaccination can be congruent or discordant with their parent's desire. Congruence exists when the parent and adolescent both desire adolescent vaccination or both decide against it, whereas discordance exists if the parent desires adolescent vaccination while the adolescent does not or vice versa. Although many youth are amenable to COVID-19 vaccination [5–7], it is unknown whether adolescent opinions that are discordant can influence parent decision-making.

We assessed whether (1) parents consider their adolescents' perceived desires when deciding on adolescent COVID-19 vaccination, (2) parental consideration of their adolescents' desire is related to certainty of parents' vaccination decision for their adolescents, and (3) discordance between parent and perceived adolescent desires for vaccination affects parents' self-reported likelihood of adolescent vaccination.

Methods

This study was approved by the University of Southern California Institutional Review Board. We collected data through the Understanding America Study (UAS)—an internet-based representative sample panel of 8,581 noninstitutionalized adults ≥18 years who were recruited by address-based sampling; survey methods were previously described [8,9], including in a broader study on parental intent for child COVID-19 vaccination [10]. Internet-enabled tablets were provided for online survey completion and written informed consent. From February 17,

2021 to March 16, 2021, 89% of UAS participants agreed to the surveying on COVID-19; 73% of those responded.

We enrolled 1,051 parents of adolescents aged 11–18 years old to answer questions for each adolescent in the household, yielding 1,519 parent-adolescent dyads, which represent each observation in this study. We asked parents three questions developed solely for this study: likelihood of getting “the adolescent” vaccinated for coronavirus-19^{a,b} (very likely, somewhat likely, somewhat unlikely, very unlikely, or unsure), thinking about what “the adolescent” desires, do they want to receive the vaccine? (yes, no, or unsure), and How much will you consider “the adolescent's” desire to, or not to, get vaccinated when you decide on their vaccination? (not at all, a little bit, somewhat, a lot, or unsure). We dichotomized the 5-point and 3-point Likert scales for analysis into “very and somewhat likely”, “yes”, and “a lot or somewhat” versus the remaining responses for each.

We used multivariable Poisson regression to estimate the adjusted risk ratios (aRRs) and 95% confidence intervals of likelihood of adolescent vaccination with consideration of the adolescent's desire and discordance. Covariates are in Table 1. Analyses were clustered at the household level and adjusted for parent-survey weighting given the UAS sampling frame. We used a significance level of .05 for all analyses (SAS, version 9.4, SAS Institute Inc., Cary, NC).

^a Parents were not asked if adolescents 16 years or older were already vaccinated.

^b At the time of survey completion, vaccination was not approved for those 12–15 years old.

Table 2The relationship between consideration of an adolescent's desire for vaccination and parental likelihood of having the adolescent vaccinated^{a,b}

	Parent likelihood of getting adolescent vaccinated		Total
	Likely	Not likely	
The adolescent's vaccination desire is considered in the parent's vaccination decision			
Yes	493 (32.6%)	391 (25.8%)	884 (58.3%)
No	275 (18.2%)	356 (23.5%)	632 (41.7%)
Total	768 (50.7%)	747 (49.3%)	
The adolescent perceived as desiring the COVID-19 vaccine			
Yes	417 (27.5%)	37 (2.4%)	453 (29.9%)
No	75 (5.0%)	466 (30.8%)	542 (35.7%)
Unsure	277 (18.3%)	244 (16.1%)	521 (34.4%)

^a Weighted counts presented.^b Responses within the shaded cells were analyzed as discordant.

Results

Parent likelihood of adolescent vaccination

Half of parents were likely to get their adolescent vaccinated (Table 2). Parents with at least a bachelor's degree (aRR = 1.49 [1.21, 1.83]) and those not born in the United States (aRR = 1.51 [1.18, 1.95]) reported a higher likelihood of adolescent vaccination. No other significant differences were observed by demographics (Table 1).

Perceived adolescent desire and likelihood of vaccination

Most parents (58.3%) reported considering their adolescent's perceived desire when making their vaccine decision. These parents were more likely to want vaccination for their adolescent (aRR = 1.25 [1.05–1.50]).

Discordance and likelihood of adolescent vaccination

Parents largely perceived that their adolescent had congruent vaccination desires (58.3%) or did not know what their adolescent desired (34.4%). Discordance was present in 2.4% of parents who perceived their adolescent desired vaccination although they were nevertheless unlikely to have them vaccinated. Discordance was not associated with parent likelihood of vaccination ($p = .47$).

Discussion

Our study may be the first to show that parents do consider their adolescents' desire when deciding on COVID-19 vaccination for their adolescent and they do this regardless of parent race, ethnicity, education level, or immigrant status.

Parents who considered their adolescents' desire were more likely to want their adolescents vaccinated. Discordant desires, however, were uncommon and not found to affect parental likelihood of adolescent vaccination. We speculate that congruent desires, whether for or against vaccination, influence parents to become more certain in their vaccination decision, whereas discordant desires increase parental uncertainty. Neither concordance nor discordance, however, appears to change the parent's ultimate vaccination decision. The extent to which congruent or discordant adolescent opinions can shift the certainty of parents' vaccination decision deserves more detailed study.

Likelihood of adolescent vaccination was found to be greater among parents with higher education and those foreign-born. Perhaps unvaccinated subgroups within these demographics may be facing limited access to appropriate materials or logistical barriers owing to unfamiliarity with the US health care system, highlighting the importance of focused outreach.

Our findings suggest that parents are willing to use their adolescent's desire for vaccination as a factor to consider when deciding on vaccination. Increasing adolescent acceptance of COVID-19 vaccination through promotion of adolescent-directed COVID-19 vaccine education may allow adolescent participation in their family's vaccine decision-making process. This discussion could help parents who are unsure of their adolescent's desire address potential differences and possibly enable discordant adolescents who desire vaccination to influence their parents' decision.

Study strengths include a nationally representative cohort of parents and recent survey distribution. Regarding limitations, we did not survey adolescents themselves, cannot distinguish adolescent age, do not know the ultimate vaccination status of the adolescents, and did not inquire about the role of other vaccination influencers.

We conclude that most parents report being influenced by their adolescents' opinion on the adolescent's COVID-19 vaccination. This elevates the importance of adolescent vaccine education and acceptance to potentially increase nationwide COVID-19 vaccination.

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