SI Appendix for "Teacher Vaccinations Enhance Student Achievement in Pakistan: The Role of Role Models and Theory of Mind"

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SUPPLEMENTARY MATERIALS FOR ONLINE APPENDIX

Additional Figures and Tables in Appendix S1: Figures S1 to S8 and Tables S1 to S22. Materials and Methods Supplementary Text in Appendix S2. Supplementary Text in Appendix S3. Additional Figures and Tables in Appendix T: Figure T1 to T5 and Tables T1 to T15. Supplementary Text in Appendix U and Appendix V provides additional information on data and robustness of the results, respectively.

Reference (46)

Supplementary Materials - Online Appendix

Teacher Vaccinations Enhance Student Achievement in Pakistan

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Contents

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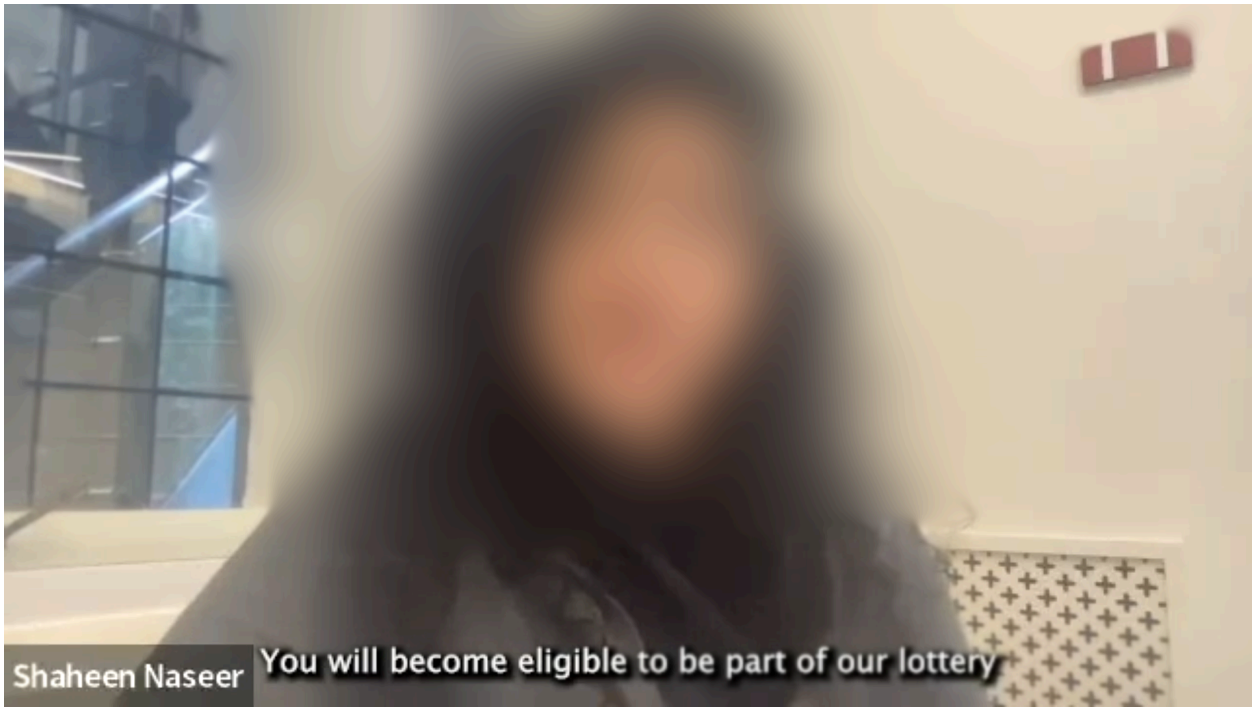
Appendix S1. Supplementary Figures and Tables

Figure S1: A Typical Official COVID-19 Certificate

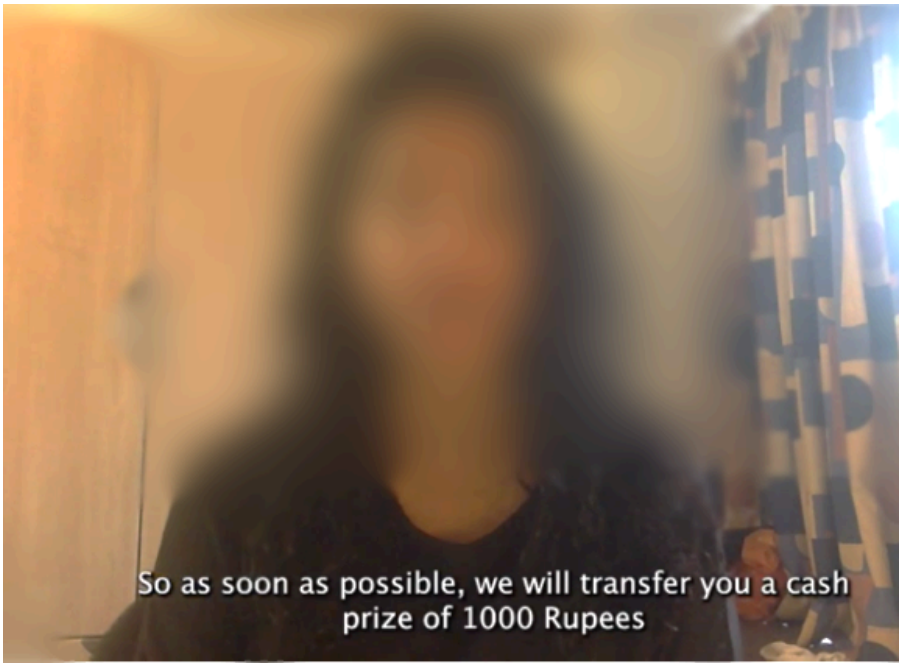
Note: The figure above shows a typical COVID-19 certificate that we used the verify the vaccination status. The QR code was used to ascertain authenticity with the official COVID-19 database. The QR code in this certificate is disabled to preserve the anonymity of the teacher.

Figure S1.1: Lottery Treatment

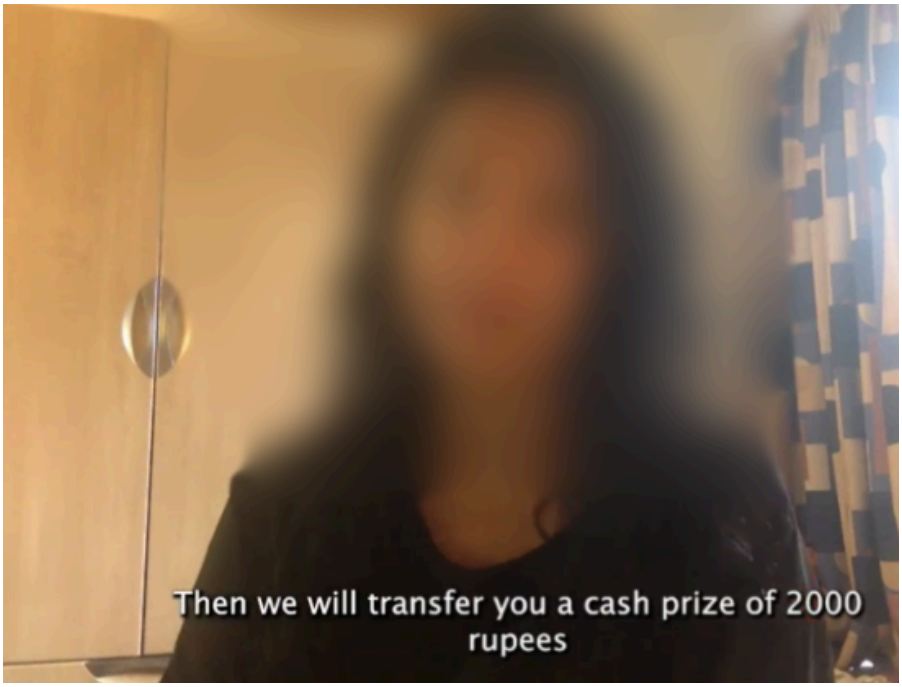


Note: The full treatment video can be found in the following embedded link: Lottery. The video message is shown live on Zoom to the randomly assigned lottery treatment group. The original announcement for the lottery could not be recorded, so we reenacted the announcement to be as close as possible to the original to the best of our knowledge. This was possible due to the availability of the exact transcript of the treatment. The original video is in Urdu, and we provide subtitles in English.

Figure S1.2: Cash 15% (PKR 1000) and Cash 30% (PKR 2000)



Panel A: 15% Cash Prize

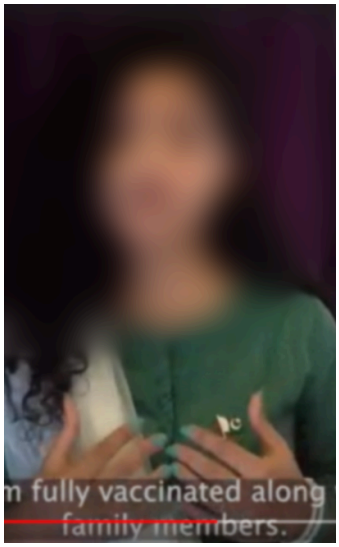


Panel B: 30% Cash Prize

Note: The original could not be recorded, so we reenacted the announcement to be as close as possible to the original to the best of our knowledge. This was possible due to the availability of the exact transcript of the treatment. The treatment announcement videos with subtitles in English can be found in the following embedded links: Cash 15% and Cash 30%.

Figure S2: Celebrity and Role Model Treatments

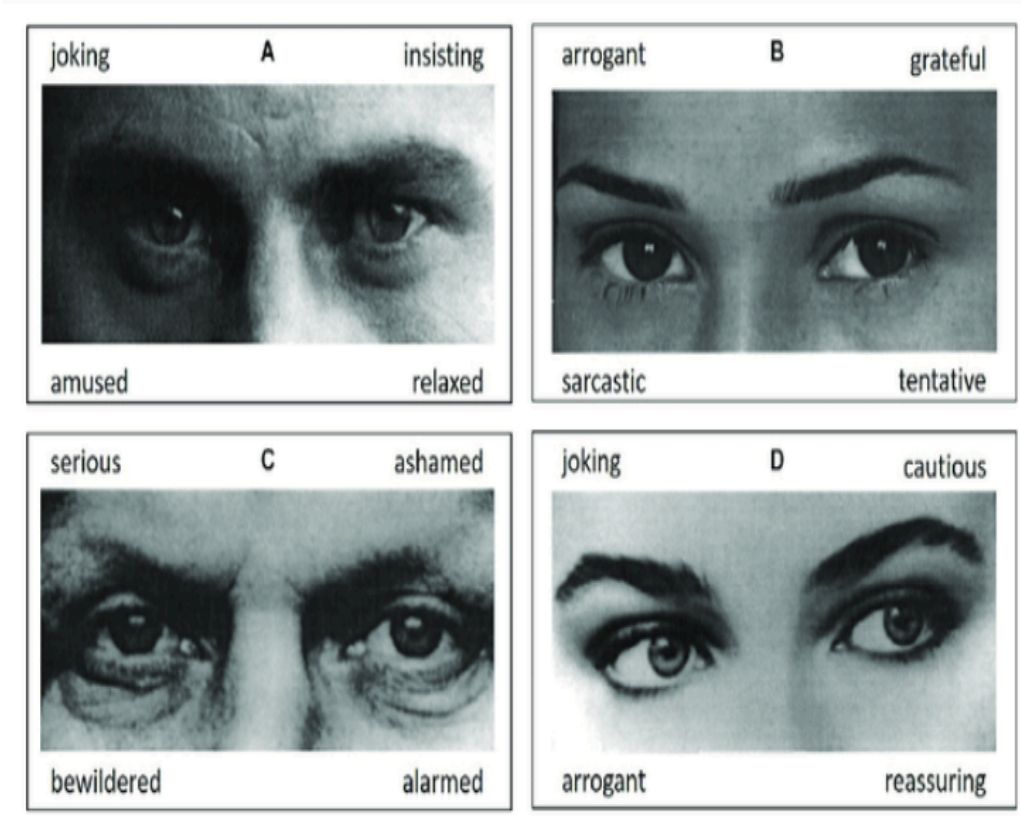
Panel A: Celebrity Snapshot



Panel B: Role Model Snapshot

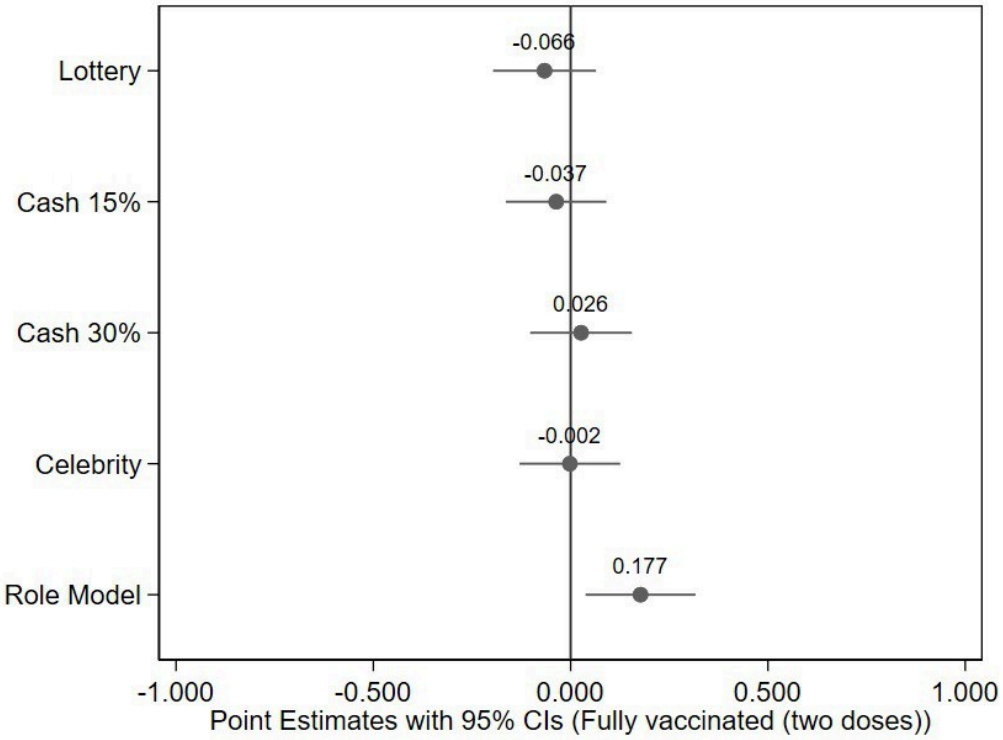
Note: The exact treatment videos can be found in the following embedded links: Celebrity and Role Model. Translation of transcript of both treatments is as follows: In the name of Allah, the Most Gracious, the Most Merciful. Assalam-o-Alaikum (Peace be upon you) Right now, I am addressing all the teachers of Progressive Education Network. I request you all to please, please, please get Covid-19 Vaccination as this is really important for your safety as well as for all your students. I myself am fully vaccinated along with all my family members. I request you all please do not fall for any misinformation or rumor, this vaccination is completely safe and is for our own protection. So I request you all to get fully vaccinated as soon as possible.

Figure S3: Reading the Mind in the Eyes Test Illustration



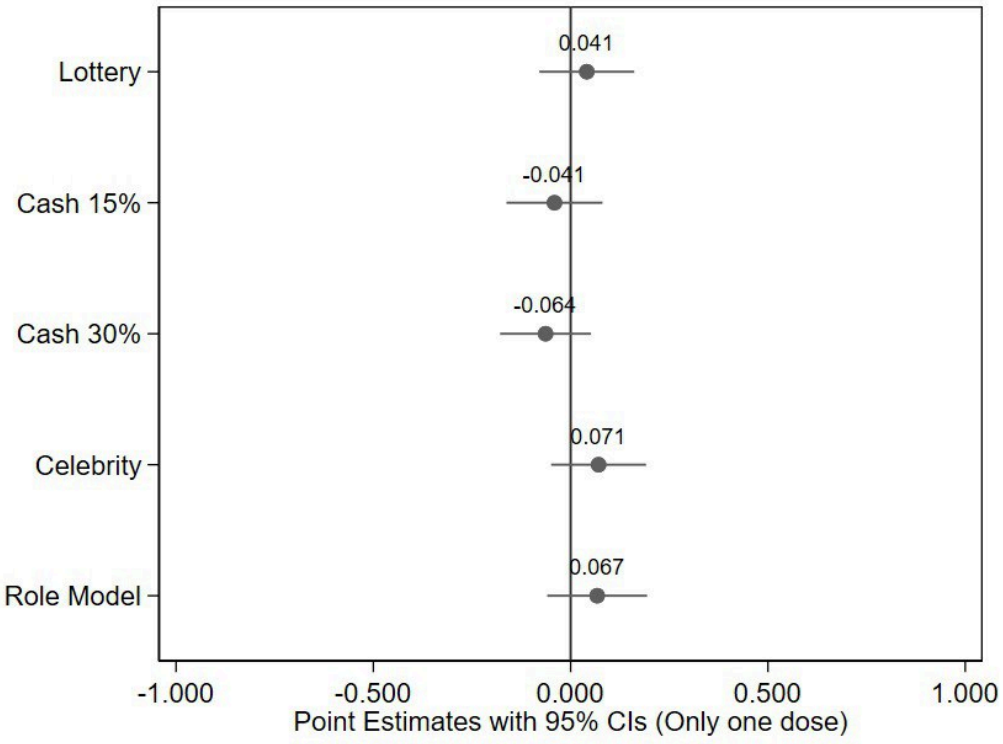
Note: The figure above summarizes the Reading the Mind in the Eyes Test (RMET) with the pictures on the left showing male eyes, while figures on the right showing female eyes. We implemented the revised RMET due to its higher accuracy in predicting mentals states and being a more robust measure of Theory of Mind (see Cohen et al., 2001 for more details).

Figure S4: Impact on Teacher Vaccinations in Levels



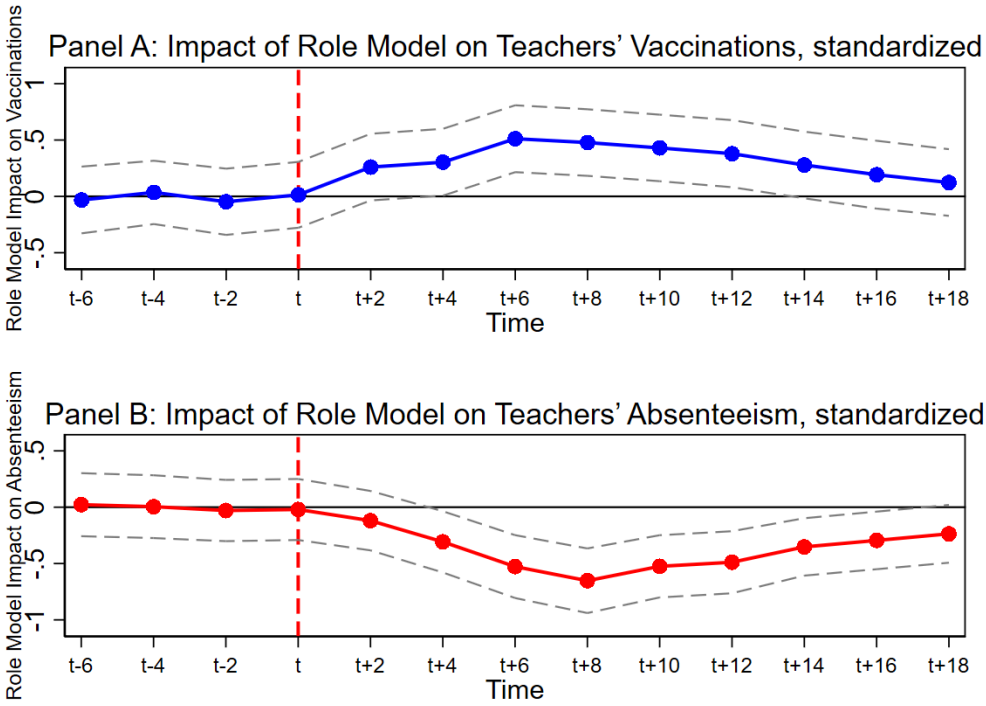
Note: The figure report estimates from equation (1) with all controls. The dependent variable switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by their COVID-19 certificate. Controls include all individual characteristics. 95% confidence bands are also reported. *Lottery* is a dummy variable that switches on when the teacher was assigned the Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to 10 times her monthly salary, *Cash 15%* stands a cash award upon getting vaccinated equivalent to 15% of teachers monthly salary, while the *Cash 30%* stands for dummy switches on when the teacher has been given cash equivalent to about 30% of her monthly salary. *Celebrity* treatment requests for vaccination by a prominent celebrity. *Role Model* delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination via the same female role model. 95% Confidence Bands are also reported.

Figure S5: Impact on Vaccinations - Single Dose



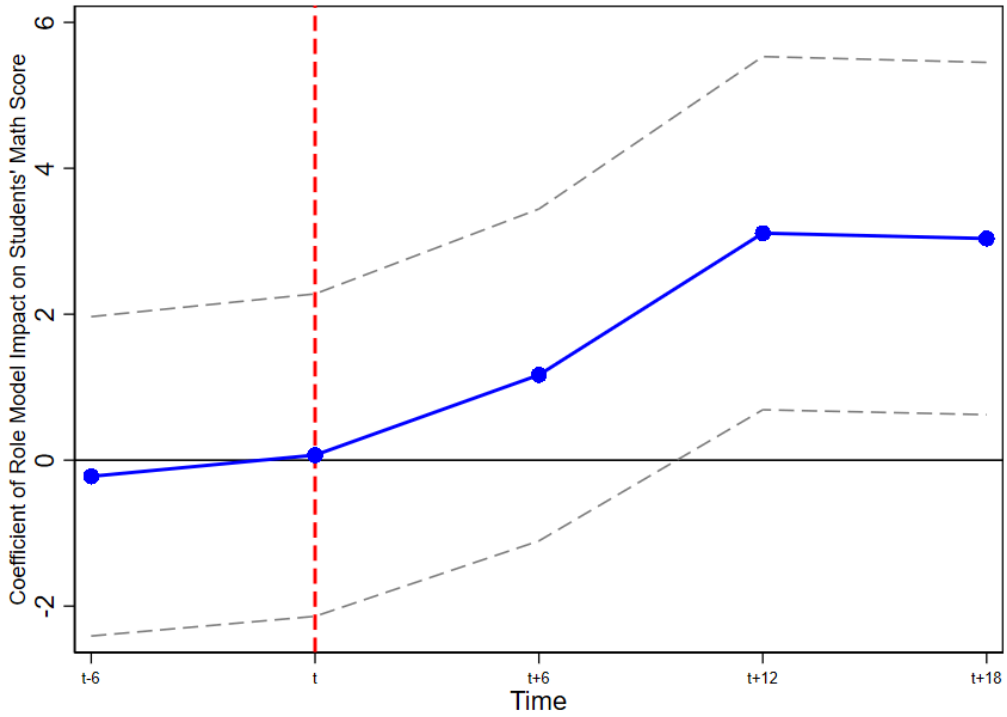
Note: The figure reports estimates from equation (1) with all controls. The dependent variable switches on if the teacher has taken only one dose of COVID-19 vaccination as ascertained by COVID-19 certificate. Controls include all individual characteristics. 95% confidence bands are also reported.

Figure S6: Treatment Effect on Teachers' Absenteeism and Vaccinations - Standardized



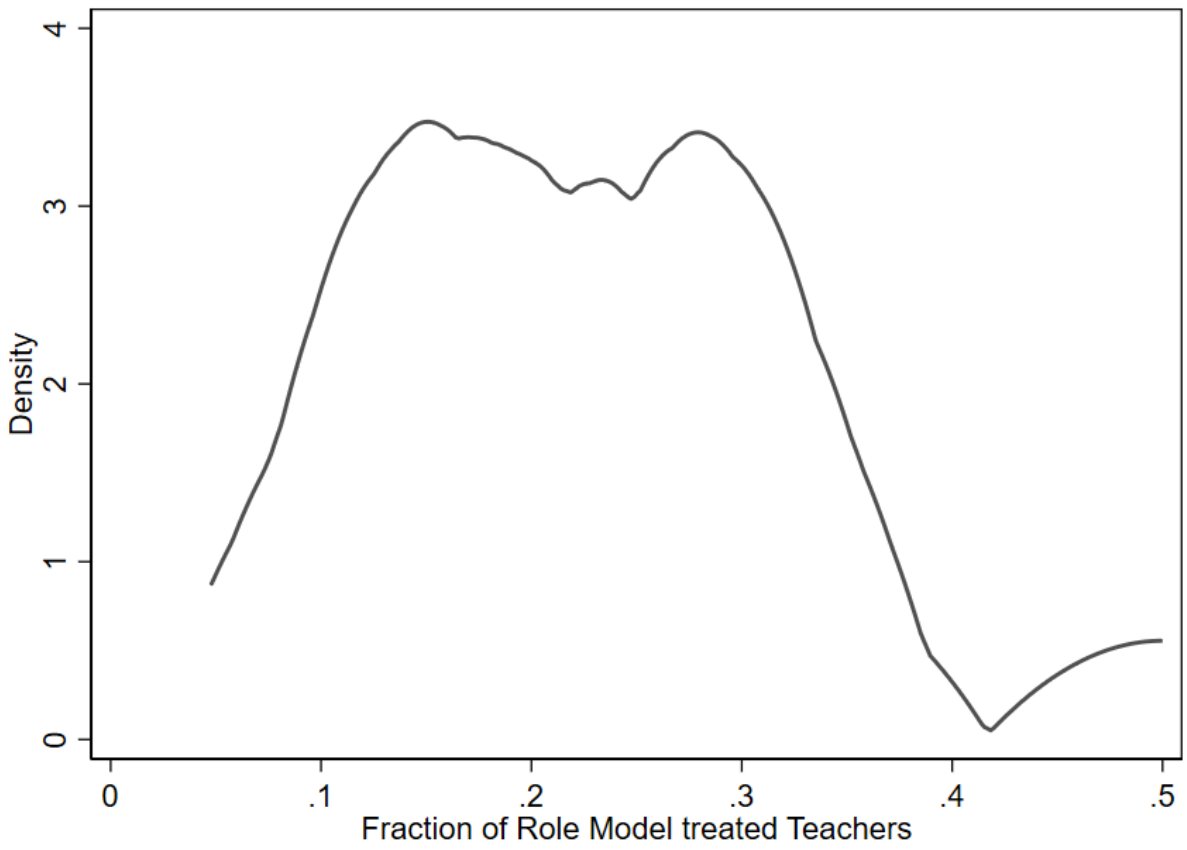
Note: The figure reports coefficient estimates corresponding to the Role Model Treatment based on specification (1) but at the month level. The dependent variable in Panel A and B, are teachers' full vaccinations and absences, respectively, recorded at the month level. The dependent variables are standardized to mean zero and standard deviation 1. Tables report results at month t+12. 95% confidence intervals are also reported.

Figure S7: Dynamic Impact on Students' Mathematics Scores - Raw Scores



Note: The figure reports coefficient estimates corresponding to the Role Model Treatment based on specification (1) but at the month level. The dependent variable is students' Math score every 6 months. The record of Math scores is available from six months prior to the treatment (t-6) and for midterms (t+6), end term (t+12) and next midterm (t + 18). Controls include all individual characteristics. Table report results at month (t+12). 95% confidence interval is reported.

Figure S8: Distribution of Fraction of Role Model Treated Teachers



Note: The figure above shows the distribution of fraction of teachers within a school that were treated by the role model.

Table S1: Summary Statistics by Treatment Arm

	Number of teachers Vaccinated According to QR Verified Certificates			
	At least One Dose Vaccinated	One Dose Vaccinated	Fully Vaccinated	**Total**
Lottery	53	26	27	106
15% Cash	48	20	28	96
30% Cash	54	19	35	108
Celebrity	58	28	30	116
Role Model	80	28	52	160
Placebo	58	26	32	116
Total	351	147	204	351

Note: The table above provides the total number of teachers who opted for one dose of COVID-19 vaccination, more than one dose of vaccination, and two doses of vaccination for all the treatment groups and placebo. *Lottery* is a dummy variable that switches on when the teacher was assigned the Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to 10 times her monthly salary, *Cash 15%* stands a cash award upon getting vaccinated equivalent to 15% of teachers monthly salary, while the *Cash 30%* stands for dummy switches on when the teacher has been given cash equivalent to about 30% of her monthly salary. *Celebrity* treatment requests for vaccination by a prominent celebrity. *Role Model* delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination via the same female role model. For balance over characteristics of teachers, see Table 1 in the main text.

Table S2: Summary statistics for main outcomes

Panel A: Teachers

	Lottery (N=101)		Cash 15% (N=101)		Cash 30% (N=101)		Celebrity (N=101)		Role Model (N=101)		Placebo (N=102)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Full Vaccination	0.267	0.445	0.277	0.450	0.347	0.478	0.297	0.459	0.515	0.502	0.314	0.466
Teachers' Absenteeism	10.198	4.804	10.248	4.387	10.366	4.845	10.198	4.541	8.762	4.631	11.088	3.828
COVID is Reason for Absence	8.723	4.752	8.752	4.213	8.871	4.573	8.792	4.276	7.188	4.604	9.618	3.776
All Other Reasons for Absence	1.475	1.101	1.495	1.163	1.495	1.083	1.406	1.097	1.574	1.089	1.471	1.132
Lumpy Absences > 7 Days	0.792	0.408	0.772	0.421	0.762	0.428	0.782	0.415	0.703	0.459	0.853	0.356
Short Absences < 7 Days	0.208	0.408	0.228	0.421	0.238	0.428	0.218	0.415	0.287	0.455	0.245	0.432
Women's Rights Overall	1.630	0.439	1.537	0.360	1.470	0.322	1.511	0.364	1.510	0.342	1.562	0.328
Women's Economic Rights	1.405	0.446	1.380	0.395	1.263	0.344	1.311	0.364	1.361	0.365	1.301	0.338
Women's Political Rights	1.401	0.819	1.347	0.619	1.228	0.467	1.282	0.576	1.292	0.597	1.363	0.638
Women's Social Rights	2.143	0.716	1.929	0.677	1.937	0.629	1.980	0.782	1.895	0.581	2.106	0.735
Women's Legal Rights	1.366	0.751	1.297	0.562	1.272	0.550	1.262	0.477	1.287	0.549	1.314	0.531

Panel B: Teachers

	Lottery (N=2381)		Cash 15% (N=2302)		Cash 30% (N=2323)		Celebrity (N=2273)		Role Model (N=2369)		Placebo (N=2285)	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Mathematics	49.908	28.757	50.197	28.443	50.613	29.390	52.092	28.736	54.939	24.686	51.320	28.321
English	50.473	28.584	50.163	29.048	51.256	28.985	49.698	28.972	54.293	25.346	49.912	28.126
General Knowledge	50.288	29.006	51.202	29.117	51.180	29.479	51.341	28.968	55.090	25.130	51.451	27.875
Urdu	49.638	28.482	50.505	29.206	50.654	28.659	50.031	28.913	54.333	25.045	50.083	28.131

Note: Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. Fully Vaccinated is a dummy that switches on if the teacher has taken 2 doses of COVID vaccination, measured 12 months after the treatment. COVID is Reason for Absence is the total number of absences due COVID illness and measured 12 months following the treatment. All Other Reasons for Absence is the total number of absences due to other reasons (i.e., marriage, funeral) recorded after 12 months post treatment. Lumpy Absences is a dummy that switches on if the teacher has taken a consecutive leave for more than 7 days, measured 12 months after the treatment. Short Absences is a dummy that switches on if the teacher has taken a consecutive leave for 7 days or less, measured 12 months after the treatment. Women's Rights Overall is an index consisting of all the statements concerning Women's Economic, Social, Legal and Political Rights. Women's Economic Rights is an index combining women's rights to education and work outside home, based on reactions to statements "Women should be allowed to work outside the home". "Women and men should have equal rights to jobs". "I have no problem with my sister or female cousin working outside the home". "Daughters should have the same right to inherit property as sons". "Women and men should have equal rights to get an education". "Wives should not be less educated than their husbands". "Boys should not have more opportunities and resources for education than girls.". Women's Political Rights is based on statements "It would be a good idea to elect a woman as the village Sarpanch (local politician)." "Women and men have equal rights to be President or Prime Minister.". Women's Social Rights is based on statements "Domestic violence by husbands cannot be justified" "Parents should seek their daughter's consent before fixing her marriage". "A woman should not necessarily get married before her 25th Birthday". "Women who give birth to a son need not be honored in the family". "A woman with five daughters should not be under social pressure to bear a son.". Finally, the Women's Legal Rights index is based on statements "Laws should be passed to ban dowry.". "Under Article 35 of the Constitution of Pakistan & Judgment of Federal Shariat Court, the consent of `Wali' is not required and a sui juris Muslim female can enter into a valid Nikah / Marriage under her own free will without the consent of Wali. To what extent do you approve of this legal right of women to enter marriage under their own free will". Dependent variables in Panel B are standardized to mean zero and standard deviation one students' scores for Mathematics, English, General Knowledge, and Urdu, measured 12 months after the treatment.

Table S3: Balance over Student Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Free Lunch Eligible	Single Parent	Number of Siblings	Mother Housewife	Father's Education	Mother's Education	Student Gender
Lottery	-0.011	-0.011	0.067	0.005	-0.214	-0.237	0.037
	(0.015)	(0.012)	(0.074)	(0.014)	(0.157)	(0.148)	(0.029)
Cash 15%	-0.015	-0.001	0.031	-0.001	0.002	0.192	0.024
	(0.015)	(0.013)	(0.076)	(0.014)	(0.156)	(0.155)	(0.031)
Cash 30%	-0.0004	-0.013	0.057	0.003	-0.045	0.0002	-0.009
	(0.015)	(0.012)	(0.077)	(0.015)	(0.152)	(0.156)	(0.028)
Celebrity	-0.017	-0.012	0.061	0.005	-0.051	0.094	0.049
	(0.015)	(0.012)	(0.072)	(0.014)	(0.146)	(0.144)	(0.031)
Role model	-0.005	-0.003	0.075	0.013	-0.222	-0.136	0.008
	(0.015)	(0.012)	(0.078)	(0.014)	(0.167)	(0.157)	(0.032)
Individual Controls and School FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,933	13,933	13,933	13,933	13,933	13,933	13,933
R-squared	0.004	0.043	0.009	0.003	0.009	0.008	0.357
F Statistics	0.505 [0.773]	0.553 [0.736]	0.274 [0.927]	0.299 [0.914]	0.801 [0.549]	1.835 [0.104]	1.401 [0.222]
Mean of dependent var	0.524	0.143	3.926	0.496	9.051	8.889	0.434

Note: Robust standard errors appear in brackets (clustered at the teacher level). Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination via the same female role model. The student-level controls include dummies for whether the student is eligible for the free lunch program, dummy for single parent, number of siblings, dummy for mother being a housewife, fathers and mother's education, dummy for student's gender. The p-value for testing the joint significance of all treatments is reported in square brackets next to the value of the F-statistic. * $p<0.01$, $p<0.05$, * $p<0.1$.

Table S4: Impact of Role Model on Vaccination Status

Panel A. Second-stage least squares				
	(1)	(2)	(3)	(4)
	Mathematics	*English*	*General Knowledge*	*Urdu*
Full Vaccination	0.631**	0.635**	0.735**	0.703***
	(0.265)	(0.283)	(0.296)	(0.254)
Individual Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	13,933	13,933	13,933	13,933
Panel B. First-stage results				
		Full Vaccination		
Role model		0.198***		
		(0.055)		
Individual Controls		Yes		
School Fixed Effects		Yes		
Observations		13,933		
F-statistic		13.076		
Mean Dependent var		0.315		

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable in Columns (1) switches on if the teacher is fully vaccinated against COVID-19. The dependent variables in Columns 2, 3, 4 and 5 are standardized to mean zero and standard deviation one scores for Mathematics, English, General Knowledge, and Urdu. Role Model treatment delivers the same message as the celebrity but via the medium of a female role model. First-stage in Column 1 is the same for all second-stage regressions from Columns 2, 3, 4, and 5. The teacher-level and student-level controls include all teacher and student characteristics reported in Panel A and Panel B of Table 1 respectively. *** p<0.01, ** p<0.05, * p<0.1.

Table S5: Impact of Vaccination Status on Absenteeism

Panel A. Second-stage least squares results			
	(1)	(2)	(3)
	Teachers' Absenteeism	COVID is the Reason for the Absence	All Other Reasons for Absence
Full Vaccination	-1.869**	-2.077***	0.602
	(0.759)	(0.804)	(0.585)
Individual Controls	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes
Observations	607	607	607
Panel B. First-stage results			
		Full Vaccination	
Role model		0.195***	
		(0.057)	
Individual Controls		Yes	
School Fixed Effects		Yes	
Observations		601	
F-statistic		11.867	
Mean Dependent var		0.314	

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable in Column 1 is the total number of absences recorded after 12 months post-treatment. The dependent variable in Column 2 is the total number of absences due to COVID illness measured 12 months following the treatment. The dependent variable in Column 3 is the total number of absences due to other reasons (i.e., marriage, funeral) recorded after 12 months post-treatment. The dependent variables are standardized to mean zero and standard deviation one. Role Model treatment delivers the same message as the celebrity but via the medium of a female role model. The first stage in Column 1 is the same for all second-stage regression from Columns 2, 3 and 4. The teacher-level controls include all teacher characteristics reported in Panel A of Table 1. *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table S6: Impact on Vaccinations - Standardized

	Fully Vaccinated				
	(1)	(2)	(3)	(4)	(5)
Lottery	-0.140	-0.147	-0.132	-0.149	-0.129
	(0.140)	(0.137)	(0.141)	(0.137)	(0.139)
Cash 15%	-0.078	-0.059	-0.079	-0.054	-0.070
	(0.137)	(0.138)	(0.137)	(0.139)	(0.138)
Cash 30%	0.056	0.062	0.061	0.063	0.071
	(0.139)	(0.137)	(0.139)	(0.138)	(0.138)
Celebrity	-0.004	-0.001	-0.003	-0.002	0.000
	(0.137)	(0.138)	(0.138)	(0.139)	(0.138)
Role Model	0.375**	0.198	0.395***	0.214	0.329**
	(0.150)	(0.147)	(0.152)	(0.148)	(0.146)
Role Model X Female RMET		0.222**		0.207*	
		(0.102)		(0.110)	
Role Model X Male RMET			0.016	0.120	
			(0.110)	(0.105)	
Role Model X Overall RMET					0.293**
					(0.118)
Female RMET		0.128***		0.147**	
		(0.047)		(0.059)	
Male RMET			0.046	-0.032	
			(0.045)	(0.056)	
Overall RMET					0.089**
					(0.042)
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607
R-squared	0.160	0.195	0.162	0.197	0.184

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by their COVID-19 certificate. This variable is standardized to mean zero and standard deviation one and measured 12 months following the treatment. Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. RMET reports the total number of correct answers to a total of 20 questions, each of which asks "What emotion are the eyes showing?" on different pictures of male and female eyes. This is also standardized to mean zero and standard deviation one. The teacher-level controls include all teacher characteristics reported in Table 1. *** p<0.01, ** p<0.05, * p<0.1.

Table S7: Impact on Students' Test Scores - Standardized

	(1)	(2)	(3)	(4)
	Mathematics	*English*	*General Knowledge*	*Urdu*
Lottery	-0.037	0.037	-0.021	-0.006
	(0.031)	(0.033)	(0.034)	(0.030)
Cash 15%	-0.047	-0.004	-0.011	0.006
	(0.033)	(0.032)	(0.034)	(0.032)
Cash 30%	-0.019	0.042	0.005	0.023
	(0.030)	(0.032)	(0.032)	(0.031)
Celebrity	0.033	-0.001	-0.008	-0.002
	(0.031)	(0.033)	(0.032)	(0.032)
Role Model	0.111**	0.145***	0.134***	0.145***
	(0.044)	(0.047)	(0.046)	(0.042)
Individual Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	13,933	13,933	13,933	13,933
R-squared	0.013	0.016	0.012	0.015

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variables are test scores that are standardized to mean zero and standard deviation for Math, English, General Knowledge and Urdu standardized test scores. *Lottery* is a dummy variable that switches on when the teacher was assigned the Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to 10 times her monthly salary, *Cash 15%* stands a cash award upon getting vaccinated equivalent to 15% of teachers monthly salary, while the *Cash 30%* stands for dummy switches on when the teacher has been given cash equivalent to about 30% of her monthly salary. *Celebrity* treatment requests for vaccination by a prominent celebrity. *Role Model* delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination via the same female role model. The student-level controls include all student characteristics reported in Table S3. *** p<0.01, ** p<0.05, * p<0.1.

Table S8: Mechanism - Impact on Teacher Absenteeism in Levels - Days Missed

	Teachers' Absenteeism			
	(1)	(2)	(3)	(4)
Lottery	-0.819	-0.784	-0.853	-0.788
	(0.618)	(0.616)	(0.620)	(0.619)
Cash 15%	-0.556	-0.631	-0.540	-0.628
	(0.611)	(0.615)	(0.609)	(0.617)
Cash 30%	-0.583	-0.613	-0.600	-0.615
	(0.634)	(0.627)	(0.637)	(0.629)
Celebrity	-0.776	-0.796	-0.785	-0.797
	(0.614)	(0.615)	(0.616)	(0.616)
Role Model	-2.217***	-1.292**	-2.219***	-1.300**
	(0.638)	(0.592)	(0.644)	(0.600)
Role Model X Female RMET		-1.337***		-1.355***
		(0.465)		(0.496)
Role Model X Male RMET			0.402	0.004
			(0.490)	(0.499)
Female RMET		-0.515*		-0.499
		(0.272)		(0.318)
Male RMET			-0.294	-0.026
			(0.239)	(0.276)
Individual Teacher Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.116	0.157	0.119	0.158
Mean Dependent var	11.088	11.088	11.088	11.088

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable is the total number of absences recorded after 12 months post treatment. *Lottery* is a dummy variable that switches on when the teacher was assigned the Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to 10 times her monthly salary, *Cash 15%* stands a cash award upon getting vaccinated equivalent to 15% of teachers monthly salary, while the *Cash 30%* stands for dummy switches on when the teacher has been given cash equivalent to about 30% of her monthly salary. *Celebrity* treatment requests for vaccination by a prominent celebrity. *Role Model* delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination delivered via the same female role model. RMET reports the total number of correct answers to a total of 20 questions, each of which asks "What emotion are the eyes showing?" on different pictures of male and female eyes. This is also standardized to mean zero and standard deviation one. The teacher-level controls include all teacher characteristics reported in Table 1. *** p<0.01, ** p<0.05, * p<0.1.

Table S9: Impact on Lumpy versus Short Leaves - Standardized

	Lumpy Absences > 7 Days		Short Absences < 7 Days	
	(1)	(2)	(3)	(4)
Lottery	-0.158	-0.144	-0.087	-0.100
	(0.131)	(0.132)	(0.143)	(0.143)
Cash 15%	-0.155	-0.138	-0.102	-0.116
	(0.141)	(0.141)	(0.150)	(0.150)
Cash 30%	-0.217	-0.209	-0.011	-0.022
	(0.139)	(0.139)	(0.149)	(0.149)
Celebrity	-0.172	-0.172	-0.069	-0.068
	(0.136)	(0.137)	(0.146)	(0.147)
Role Model	-0.356**	-0.345**	0.083	0.068
	(0.149)	(0.150)	(0.157)	(0.159)
Individual Teacher Controls	No	Yes	No	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.091	0.097	0.080	0.084

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable in Columns 1 and 2 is a dummy that switches on if the teacher has taken a consecutive leave for more than 7 days. The dependent variable in Columns 3 and 4 is a dummy that switches on if the teacher has taken a consecutive leave for 7 days or less. These variables are standardized to mean zero and standard deviation one and measured 12 months following the treatment. Lottery is a dummy variable that switches on when the teacher is assigned the Lottery treatment i.e., opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1. *** p<0.01, ** p<0.05, * p<0.1.

Table S10: Alternate Mechanism - Impact on Gender Attitudes

	Women's Rights Overall	Women's Economic Rights	Women's Political Rights	Women's Social Rights	Women's Legal Rights
	(1)	(2)	(3)	(4)	(5)
Lottery	0.056	0.075	0.045	0.043	0.033
	(0.055)	(0.058)	(0.102)	(0.105)	(0.092)
Cash 15%	-0.023	0.065	-0.014	-0.145	-0.035
	(0.051)	(0.055)	(0.091)	(0.101)	(0.082)
Cash 30%	-0.072	-0.011	-0.091	-0.185*	0.015
	(0.049)	(0.051)	(0.083)	(0.101)	(0.077)
Celebrity	-0.042	0.022	-0.089	-0.109	-0.055
	(0.050)	(0.052)	(0.092)	(0.107)	(0.077)
Role Model	-0.034	0.058	-0.046	-0.159	-0.034
	(0.052)	(0.054)	(0.092)	(0.100)	(0.082)
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607
R-squared	0.134	0.100	0.111	0.123	0.117

Note: Robust standard errors appear in brackets (clustered at the teacher level). Women's Rights Overall is an index consisting of all the statements concerning Women's Economic, Social, Legal and Political Rights. Women's Economic Rights is an index combining women's rights to education and work outside home, based on reactions to statements "Women should be allowed to work outside the home". "Women and men should have equal rights to jobs". "I have no problem with my sister or female cousin working outside the home". "Daughters should have the same right to inherit property as sons". "Women and men should have equal rights to get an education". "Wives should not be less educated than their husbands". "Boys should not have more opportunities and resources for education than girls.". Women's Political Rights is based on statements "It would be a good idea to elect a woman as the village Sarpanch (local politician)." "Women and men have equal rights to be President or Prime Minister.". Women's Social Rights is based on statements "Domestic violence by husbands cannot be justified" "Parents should seek their daughter's consent before fixing her marriage". "A woman should not necessarily get married before her 25th Birthday". "Women who give birth to a son need not be honored in the family". "A woman with five daughters should not be under social pressure to bear a son.". Finally, the Women's Legal Rights index is based on statements "Laws should be passed to ban dowry.". "Under Article 35 of the Constitution of Pakistan & Judgment of Federal Shariat Court, the consent of `Wali' is not required and a sui juris Muslim female can enter into a valid Nikah / Marriage under her own free will without the consent of Wali. To what extent do you approve of this legal right of women to enter marriage under their own free will". Lottery is a dummy variable that switches on when the teacher is assigned Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1. *** p<0.01, ** p<0.05, * p<0.1.

Table S11: Impact on Vaccinations and Student Achievement – Assessing Spillovers

	(1)	(2)	(3)	(4)	(5)
	Full Vaccination	*Mathematics*	*English*	*General Knowledge*	*Urdu*
Fraction of Role Model Treated Teachers X Role Model	-0.550	0.715**	0.764**	0.903**	0.532*
	(0.826)	(0.297)	(0.356)	(0.342)	(0.303)
Role model	0.498**	-0.050	-0.026	-0.069	0.026
	(0.220)	(0.114)	(0.122)	(0.126)	(0.103)
Individual Controls	Yes	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	607	13,933	13,933	13,933	13,933
R-squared	0.160	0.014	0.017	0.014	0.016

Note: Robust standard errors appear in brackets (clustered at the school level). The dependent variable in Column (1) switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by COVID-19 certificates. This variable is standardized to mean zero and standard deviation one. The dependent variables in Columns 2, 3, 4 and 5 are standardized to mean zero and standard deviation one scores for Mathematics, English, General Knowledge, and Urdu. The Fraction of Role Model Treated Teachers is the proportion of teachers treated with the Role Model treatment within a school. Role Model treatment delivers the same message as the celebrity but via the medium of a female role model. The teacher-level and student-level controls include all teacher and student characteristics reported in Table 1 and Table S3, respectively. *** p<0.01, ** p<0.05, * p<0.1.

Table S12: Impact of Treatment and RMET Score on Vaccination

	Fully Vaccinated			
	(1)	(2)	(3)	(4)
Lottery	-0.066	-0.061	-0.064	-0.057
	(0.066)	(0.063)	(0.067)	(0.063)
Cash 15%	-0.037	-0.044	-0.040	-0.050
	(0.065)	(0.065)	(0.066)	(0.067)
Cash 30%	0.026	0.038	0.027	0.048
	(0.066)	(0.065)	(0.066)	(0.066)
Celebrity	-0.002	0.002	-0.003	-0.001
	(0.065)	(0.065)	(0.066)	(0.065)
Role model	0.177**	0.102	0.185**	0.114
	(0.071)	(0.069)	(0.072)	(0.070)
Lottery X Female RMET		0.213***		0.234***
		(0.068)		(0.079)
Cash 15% X Female RMET		0.006		0.008
		(0.075)		(0.090)
Cash 30% X Female RMET		0.126*		0.181*
		(0.069)		(0.093)
Celebrity X Female RMET		0.023		-0.037
		(0.076)		(0.113)
Role model X Female RMET		0.197***		0.216***
		(0.071)		(0.083)
Lottery X Male RMET			-0.007	-0.065
			(0.077)	(0.080)
Cash 15% X Male RMET			0.016	0.016
			(0.085)	(0.100)
Cash 30% X Male RMET			0.045	-0.078
			(0.066)	(0.089)
Celebrity X Male RMET			0.013	0.042
			(0.067)	(0.094)
Role model X Male RMET			0.024	0.005
			(0.073)	(0.078)
Female RMET		-0.032		-0.048
		(0.056)		(0.069)
Male RMET			0.006	0.030
			(0.055)	(0.065)
Individual Teacher Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.160	0.217	0.163	0.222
Mean Dependent var	0.314	0.314	0.314	0.314

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by their COVID-19 certificate. Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. RMET reports the total number of correct answers to a total of 20 questions, each of which asks "What emotion are the eyes showing?" on different pictures of male and female eyes. This is standardized to mean zero and standard deviation one. The teacher-level controls include all teacher characteristics reported in Table 1. *** p<0.01, ** p<0.05, * p<0.1.

Table S13: Impact of Schools More Intensely Treated by the Role Model

	Fully Vaccinated		*Teacher's Absenteeism*	
Panel A: *Lottery*				
	(1)	(2)	(3)	(4)
Fraction of Role Model Treated Teachers	1.035	0.950	-0.385	0.009
	(0.727)	(0.804)	(0.869)	(0.886)
Individual Teacher Controls	No	Yes	No	Yes
Observations	101	101	101	101
R-squared	0.017	0.032	0.002	0.059
Panel B: *Cash 15%*				
Fraction of Role Model Treated Teachers	1.070	0.653	0.692	1.093
	(0.760)	(0.628)	(1.160)	(0.950)
Individual Teacher Controls	No	Yes	No	Yes
Observations	101	101	101	101
R-squared	0.015	0.099	0.006	0.063
Panel B: *Cash 30%*				
Fraction of Role Model Treated Teachers	0.538	0.598	-0.110	0.080
	(1.149)	(1.193)	(0.996)	(0.978)
Individual Teacher Controls	No	Yes	No	Yes
Observations	101	101	101	101
R-squared	0.003	0.045	0.000	0.029
Panel D: *Celebrity*				
Fraction of Role Model Treated Teachers	-1.131	-0.927	-0.574	-0.450
	(0.810)	(0.823)	(0.918)	(0.921)
Individual Teacher Controls	No	Yes	No	Yes
Observations	101	101	101	101
R-squared	0.017	0.083	0.004	0.052
Panel E: *Placebo*				
Fraction of Role Model Treated Teachers	0.974	1.340	1.428*	1.689*
	(1.045)	(1.226)	(0.770)	(0.913)
Individual Teacher Controls	No	Yes	No	Yes
Observations	102	102	102	102
R-squared	0.010	0.042	0.029	0.065

Note: Robust standard errors appear in brackets (clustered at the school level). The dependent variable in Columns (1) and (2) switches on if the teacher is fully vaccinated against COVID-19. The dependent variable in Columns (3) and (4) is the total number of absences recorded 12 months post-treatment. The Fraction of Role Model Treated Teachers is the proportion of teachers treated with the Role Model treatment within a school. Role Model treatment delivers the same message as the celebrity but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1 respectively. School fixed effects in this specification cannot be included. *** p<0.01, ** p<0.05, * p<0.1.

Table S14: Impact on Vaccinations and Student Achievement – Multiple Hypothesis Test

	(1)	(2)	(3)	(4)	(5)
	Full Vaccination	*Math*	*English*	*General Knowledge*	*Urdu*
Role Model	0.177	0.111	0.145	0.134	0.145
p-value	(0.013) **	(0.012) **	(0.002) ***	(0.004) ***	(0.001) ***
Sharpened q-value	[0.069] *	[0.054] *	[0.021] **	[0.023] **	[0.012] **
FWER p-value	{0.009} ***	{0.009} ***	{0.001} ***	{0.002} ***	{<0.001} ***
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	607	13,933	13,933	13,933	13,933
R- squared	0.160	0.013	0.016	0.012	0.015

Note: p-values from our baseline regressions from specification (1) appear in parentheses for comparison, while Anderson q-values are reported in square brackets. Note that the sharpened q-values can be less than unadjusted p-values when several hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections too and still maintain a low false discovery rate. List et al., (2021)'s familywise error rate corrected (FWER) p-values are reported in curly brackets. This extends the False Discovery Rate (FDR) method by incorporating the point-dependence structure of different treatments, allowing p-values to be correlated while adjusting for multiple hypotheses and controlling for the familywise error rate. In the reported results of FWER correct p-values, we pool p-values across both outcomes and treatments in a single family. The dependent variable in column (1) switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by COVID-19 certificate. This variable is standardized to mean zero and standard deviation one. The dependent variables in Columns 2, 3, 4 and 5 are standardized to mean zero and standard deviation for Mathematics, English, General Knowledge, and Urdu test scores. Role Model emphasizes the same message as the celebrity but via the medium of a female role model. The teacher-level and student-level controls include all teacher and student characteristics reported in Table 1 and Table S3 respectively. *** p<0.01, ** p<0.05, * p<0.1.

Table S15: Impact on Teacher Absenteeism – Multiple Hypothesis Test

	(1)	(2)	(3)	(4)	(5)
	Teachers' Absenteeism	*COVID is Reason for Absence*	*All Other Reasons for Absence*	*Short Absences*	*Lumpy Absences*
Role model	-0.487	-0.534	0.130	0.068	-0.345
p-value	(0.001) ***	(<0.001) ***	(0.390)	(0.669)	(0.022) **
Sharpened q-value	[0.007] ***	[0.006] ***	[0.999]	[0.999]	[0.204]
FWER p-value	{<0.001} ***	{<0.001} ***	{0.967}	{0.972}	{0.013} **
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607
R-squared	0.116	0.123	0.081	0.084	0.097

Note: p-values from our baseline regressions from specification (1) appear in parentheses for comparison, while Anderson q-values are reported in square brackets. Note that the sharpened q-values can be less than unadjusted p-values when several hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections too and still maintain a low false discovery rate. List et al., (2021)'s familywise error rate corrected (FWER) p-values are reported in curly brackets. This extends the False Discovery Rate (FDR) method by incorporating the point-dependence structure of different treatments, allowing p-values to be correlated while adjusting for multiple hypotheses and controlling for the familywise error rate. In the reported results of FWER correct p-values, we pool p-values across both outcomes and treatments in a single family. The dependent variable in Column 1 is the total number of absences recorded after 12 months post treatment. The dependent variable in Column 2 is the total number of absences due COVID illness. The dependent variable in Column 3 is the total number of absences due to other reasons (i.e., marriage, funeral). The dependent variable in Columns 4 is a dummy that switches on if the teacher has taken a consecutive leave for 7 days or less. The dependent variable in Column 5 is a dummy that switches on if the teacher has taken a consecutive leave for more than 7 days. Dependent variables are standardized to mean zero and standard deviation one and measured 12 months following the treatment. Role Model emphasizes the same message as the celebrity but via the medium of a female role model. The teacher-level and student-level controls include all teacher and student characteristics reported in Table 1 and Table S3 respectively. *** p<0.01, ** p<0.05, * p<0.1.

Table S16: Role Model and RMET Score Impact on Vaccination– Multiple Hypothesis Test

	Fully Vaccinated			
	(1)	(2)	(3)	(4)
Role model	0.198	0.395	0.214	0.329
p-value	(0.178)	(0.009) ***	(0.149)	(0.025) **
Sharpened q-value	[0.424]	[0.071] *	[0.533]	[0.086] *
FWER p-value	{0.277}	{0.008} ***	{0.314}	{0.024} **
Role model X Female RMET	0.222		0.207	
p-value	(0.030) **		(0.059) *	
Sharpened q-value	[0.099] *		[0.311]	
FWER p-value	{0.032} **		{0.116}	
Role model X Male RMET		0.016	0.120	
p-value		(0.884)	(0.256)	
Sharpened q-value		[0.999]	[0.638]	
FWER p-value		{0.973}	{0.537}	
Role model X Overall RMET				0.293
p-value				(0.014) **
Sharpened q-value				[0.086] *
FWER p-value				{0.013} **
Female RMET	0.128		0.147	
p-value	(0.006) ***		(0.013) **	
Sharpened q-value	[0.047] **		[0.136]	
FWER p-value	{0.006} ***		{0.018} **	
Male RMET		0.046	-0.032	
p-value		(0.306)	(0.570)	
Sharpened q-value		[0.999]	[0.999]	
FWER p-value		{0.642}	{0.899}	
Overall RMET				0.089
p-value				(0.034) **
Sharpened q-value				[0.086] *
FWER p-value				{0.027} **
Individual Teacher Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.195	0.162	0.197	0.184

Note: p-values from our baseline regressions appear in parentheses for comparison, while Anderson q-values are reported in square brackets. Note that the sharpened q-values can be less than unadjusted p-values when several hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections too and still maintain a low false discovery rate. List et al., (2021)'s familywise error rate corrected (FWER) p-values are reported in curly brackets. This extends the False Discovery Rate (FDR) method by incorporating the point-dependence structure of different treatments, allowing p-values to be correlated while adjusting for multiple hypotheses and controlling for the familywise error rate. In the reported results of FWER correct p-values, we pool p-values across both outcomes and treatments in a single family. The dependent variable in column (1) switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by COVID-19 certificate. Role Model emphasizes the same message as the celebrity but via the medium of a female role model. RMET reports the total number of correct answers to a total of 20 questions, each of which asks "What emotion are the eyes showing?" on different pictures of male and female eyes. This is also standardized to mean zero and standard deviation one. The teacher-level controls include all teacher characteristics reported in Table 1. All specifications control for Lottery, Cash 15%, Cash 30% and Celebrity treatment. *** p<0.01, ** p<0.05, * p<0.1.

Table S17: Impact on Gender Attitudes – Multiple Hypothesis Test

	(1)	(2)	(3)	(4)	(5)
	Women's Rights Overall	Women's Economic Rights	Women's Political Rights	Women's Social Rights	Women's Legal Rights
Role Model	-0.034	0.058	-0.046	-0.159	-0.034
p-value	(0.509)	(0.279)	(0.612)	(0.113)	(0.683)
Sharpened q-value	[0.999]	[0.999]	[0.999]	[0.999]	[0.999]
FWER p-value	{0.982}	{0.831}	{0.994}	{0.430}	{0.998}
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607
R-squared	0.134	0.100	0.111	0.123	0.117

Note: p-values from our baseline regressions appear in parentheses for comparison, while Anderson q-values are reported in square brackets. Note that the sharpened q-values can be less than unadjusted p-values when several hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections too and still maintain a low false discovery rate. List et al., (2021)'s familywise error rate corrected (FWER) p-values are reported in curly brackets. This extends the False Discovery Rate (FDR) method by incorporating the point-dependence structure of different treatments, allowing p-values to be correlated while adjusting for multiple hypotheses and controlling for the familywise error rate. In the reported results of FWER correct p-values, we pool p-values across both outcomes and treatments in a single family. Women's Rights Overall is an index consisting of all the statements concerning Women's Economic, Social, Legal and Political Rights. Women's Economic Rights is an index combining women's rights to education and work outside home, based on reactions to statements "Women should be allowed to work outside the home". "Women and men should have equal rights to jobs". "I have no problem with my sister or female cousin working outside the home". "Daughters should have the same right to inherit property as sons". "Women and men should have equal rights to get an education". "Wives should not be less educated than their husbands". "Boys should not have more opportunities and resources for education than girls.". Women's Political Rights is based on statements "It would be a good idea to elect a woman as the village Sarpanch (local politician)." "Women and men have equal rights to be President or Prime Minister.". Women's Social Rights is based on statements "Domestic violence by husbands cannot be justified" "Parents should seek their daughter's consent before fixing her marriage". "A woman should not necessarily get married before her 25th Birthday". "Women who give birth to a son need not be honored in the family". "A woman with five daughters should not be under social pressure to bear a son.". Finally, the Women's Legal Rights index is based on statements "Laws should be passed to ban dowry.". "Under Article 35 of the Constitution of Pakistan & Judgment of Federal Shariat Court, the consent of `Wali' is not required and a sui juris Muslim female can enter into a valid Nikah / Marriage under her own free will without the consent of Wali. To what extent do you approve of this legal right of women to enter marriage under their own free will". Role Model emphasizes the same message as the celebrity but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1. *** p<0.01, ** p<0.05, * p<0.1.

Table S18: Impact on Vaccinations and Student Achievement – Randomization Inference

	(1)	(2)	(3)	(4)	(5)
	Full Vaccination	*Math*	*English*	*General Knowledge*	*Urdu*
Role Model	0.375	0.111	0.145	0.134	0.145
	(0.013) **	(0.012) **	(0.002) ***	(0.004) ***	(0.001) ***
	{0.013} ***	{<0.001} ***	{<0.001} ***	{<0.001} ***	{<0.001} ***
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes
Observations	607	13,933	13,933	13,933	13,933
R- squared	0.160	0.013	0.016	0.012	0.015

Note: p-values from our baseline regression (1) appear in parentheses for comparison, while p-values from randomization inference due to Heß (2017) are reported in curly brackets. The dependent variable in column (1) switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by COVID-19 certificate. This variable is standardized to mean zero and standard deviation one. The dependent variables in Columns 2, 3, 4 and 5 are standardized to mean zero and standard deviation for Math scores, English scores, General Knowledge scores, and Urdu scores about six months after the treatment. Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" of 10 times her monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model emphasizes the same message but via the medium of a female role model. The teacher-level and student-level controls include all teacher and student characteristics reported in Table 1 and Table S3 respectively. *** p<0.01, ** p<0.05, * p<0.1.

Table S19: Robustness to different Clustering

	Fully Vaccinated			
	Clustered at Teacher level	Clustered at School level	Clustered at City level	Clustered at State Capital level
	(1)	(2)	(3)	(4)
Lottery	-0.140	-0.140	-0.140	-0.140
	(0.140)	(0.157)	(0.108)	(0.064)
Cash 15%	-0.078	-0.078	-0.078	-0.078
	(0.137)	(0.119)	(0.175)	(0.040)
Cash 30%	0.056	0.056	0.056	0.056
	(0.139)	(0.143)	(0.182)	(0.093)
Celebrity	-0.004	-0.004	-0.004	-0.004
	(0.137)	(0.173)	(0.120)	(0.016)
Role Model	0.375**	0.375**	0.375**	0.375*
	(0.150)	(0.142)	(0.164)	(0.036)
Individual Teacher Controls	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.160	0.160	0.160	0.160

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by their COVID-19 certificate. This variable is standardized to mean zero and standard deviation one. In Column (1) Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1. *** p<0.01, ** p<0.05, *p<0.1.

Table S20: Robustness to Dropping Largest and Smallest Percentile Schools

	Fully Vaccinated			
	Dropped Schools with top 5% Teachers	Dropped Schools with top 10% Teachers	Dropped Schools with Bottom 5% Teachers	Dropped Schools with Bottom 10% Teachers
	(1)	(2)	(3)	(4)
Lottery	-0.193	-0.199	-0.164	-0.157
	(0.146)	(0.164)	(0.145)	(0.149)
Cash 15%	-0.084	-0.137	-0.128	-0.125
	(0.143)	(0.159)	(0.141)	(0.142)
Cash 30%	0.014	-0.015	0.025	0.017
	(0.144)	(0.155)	(0.144)	(0.147)
Celebrity	-0.047	-0.161	-0.002	0.024
	(0.143)	(0.153)	(0.139)	(0.143)
Role Model	0.327**	0.318*	0.362**	0.369**
	(0.156)	(0.169)	(0.154)	(0.156)
Individual Teacher Controls	Yes	Yes	No	No
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	576	502	565	544
R-squared	0.162	0.152	0.154	0.156

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by their COVID-19 certificate. This variable is standardized to mean zero and standard deviation one. Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1. *** p<0.01, ** p<0.05, * p<0.1.

Table S21: Robustness to different sets of Controls

	Fully Vaccinated			
	(1)	(2)	(3)	(4)
Lottery	-0.140	-0.159	-0.137	-0.156
	(0.140)	(0.139)	(0.140)	(0.139)
Cash 15%	-0.078	-0.087	-0.065	-0.076
	(0.137)	(0.138)	(0.137)	(0.138)
Cash 30%	0.056	0.055	0.060	0.059
	(0.139)	(0.139)	(0.140)	(0.139)
Celebrity	-0.004	-0.030	-0.015	-0.038
	(0.137)	(0.137)	(0.137)	(0.137)
Role Model	0.375**	0.361**	0.379**	0.366**
	(0.150)	(0.150)	(0.149)	(0.149)
Individual Teacher Controls	Yes	Yes	No	No
Pre-Treatment Outcomes	Yes	No	Yes	No
School Fixed Effects	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.160	0.147	0.153	0.141

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by their COVID-19 certificate. This variable is standardized to mean zero and standard deviation one. Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1. *** p<0.01, ** p<0.05, * p<0.1.

Table S22: Impact on Vaccinations and Student Achievement – Additional Multiple Hypothesis Test

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Fully Vaccinated	Vaccinated at least Once	Covid is Reason for Absence	Mathematics	English	General Knowledge	Urdu
Role model	0.177	0.252	-0.593	0.111	0.145	0.134	0.145
p-value	(0.011)**	(<0.001)***	(<0.001)***	(0.012) **	(0.002)***	(0.004)***	(0.001)***
Sharpened q-value	[0.006]***	[0.001]***	[0.001]***	[0.006] ***	[0.003] ***	[0.003]***	[0.001]***
FWER p-value	{<0.001}***	{<0.001}***	{<0.001}***	{<0.001}***	{<0.001}***	{<0.001}***	{<0.001} **
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
School Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,933	13,933	13,933	13,933	13,933	13,933	13,933
R-squared	0.141	0.135	0.130	0.013	0.016	0.012	0.015

Note: p-values from our baseline regressions from specification (1) appear in parentheses for comparison, while Anderson q-values are reported in square brackets. Note that the sharpened q-values can be less than unadjusted p-values when several hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections too and still maintain a low false discovery rate. List et al., (2021)'s familywise error rate corrected (FWER) p-values are reported in curly brackets. This extends the False Discovery Rate (FDR) method by incorporating the point-dependence structure of different treatments, allowing p-values to be correlated while adjusting for multiple hypotheses and controlling for the familywise error rate. In the reported results of FWER correct p-values, we pool p-values across both outcomes and treatments in a single family. The dependent variable in column (1) switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by COVID-19 certificate. This variable is standardized to mean zero and standard deviation one. The dependent variables in Columns 2, 3, 4 and 5 are standardized to mean zero and standard deviation for Mathematics, English, General Knowledge, and Urdu test scores. Role Model emphasizes the same message as the celebrity but via the medium of a female role model. The teacher-level and student-level controls include all teacher and student characteristics reported in Panel A and Panel B of Table 1 respectively. *** p<0.01, ** p<0.05, * p<0.1

Appendix S2. Consent, Survey Instrument and Flow Chart

Appendix S2.1. Consent

For teachers:

I agreed to participate in the research study. I understand the purpose and nature of this study and I am participating voluntarily. I understand that I can withdraw from the study at any time, without any penalty or consequences.

Yes 🔘 No 🔘

I grant permission for the data generated from this survey to be used in the researcher's publications on this topic.

Yes 🔘 No 🔘

I grant permission to researchers to use my anonymized information for research purposes and this includes my personal data with PEN.

Yes 🔘 No 🔘

For parents/caregivers:

I grant permission to researchers to use my son or daughter’s anonymized information for research purposes and this includes the personal data with PEN.

Yes 🔘 No 🔘

Appendix S2.2. Transcript of Structured Discussion Questions

Following teach treatment video, teachers are prompted the following three questions:

Q1. What do you think was the main message of the video?

Q2. Did you find the video useful?

Q3. How can you apply the video lessons in your life?

Appendix S2.3. Survey Instrument: Gender Rights Index Statements

Likert Scale:

1. Totally Disagree
2. Disagree
3. Neutral
4. Agree
5. Totally Agree

S1. Women should be allowed to work outside the home.

S2. Women and men should have equal rights to jobs.

S3. I have no problem with my sister or female cousin from working outside the home.

S4. Daughters should have a similar right to inherited property as sons.

S5. Women and men should have equal rights to get an education as men.

S6. Wives should not be less educated than their husbands.

S7. Boys should not get more opportunities and resources for education than girls

S8. It would be a good idea to elect a woman as the village Sarpanch (local politician).

S9. Women and men have equal rights to be President or Prime Minister.

S10. Domestic violence by husbands cannot be justified.

S12. Women should not necessarily get married before her 25th Birthday.

S13. Women who give birth to a son need not be honored in the family.

S14. A woman with five daughters should not be under social pressure to bear a son.

S15. Laws should be passed to ban dowry.

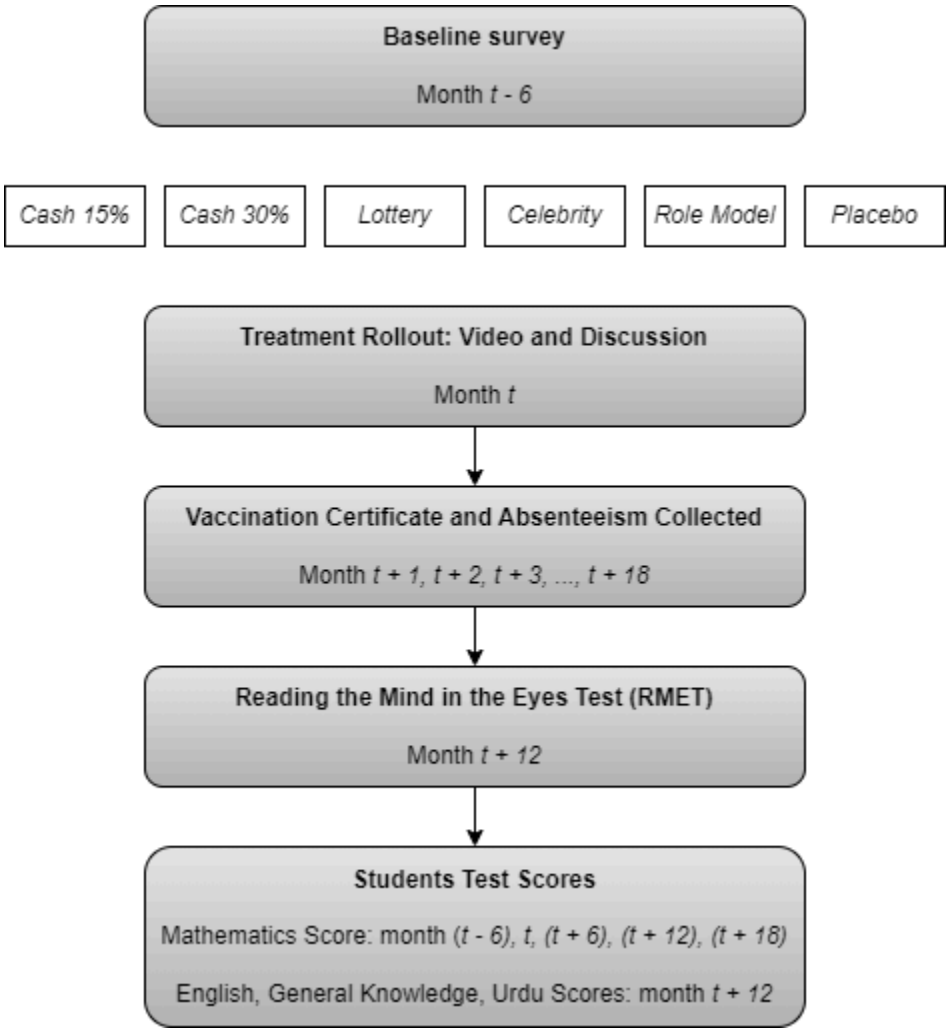
S16. Under Article 35 of the Constitution of Pakistan & Judgment of Federal Shariat Court, the consent of `Wali' is not required and a sui juris Muslim female can enter into a valid Nikah / Marriage under her own freewill without the consent of Wali. How much do you approve of this legal right of women to enter marriage under their own freewill.

Appendix S2.4. Procedure for Index Construction

Average effect size (AES) approach of (1) and (2), is used to construct gender rights indices. The AES averages the normalized effects obtained from a seemingly unrelated regression in which each dependent variable is an index of several variables. Normalization is relative to the control group. Women's Rights Overall is an index consisting of all the statements concerning Women's Economic, Social, Legal and Political Rights i.e. all the 16 statements in section C2. Women's Economic Rights is an index combining women rights relevant to education and work outside home i.e. statements 1 to 7. Women's Political rights is an index of statements 8 and 9, while women's social rights is based on statements 10 to 14. Finally, the legal rights index combines statements 15 and 16. Specifically, Women's Rights Overall is an index consisting of all the statements concerning Women's Economic, Social, Legal and Political Rights. Women's Economic Rights is an index combining women rights relevant to education and work outside home i.e. statements "Women should be allowed to work outside the home". "Women and men should have equal rights to jobs". "I have no problem with my sister or female cousin from working outside the home". "Daughters should have a similar right to inherited property as sons". "Women and men should have equal rights to get an education as men".

“Wives should not be less educated than their husbands”. “Boys should not get more opportunities and resources for education than girls.”. Women’s Political rights is an index of statements “It would be a good idea to elect a woman as the village Sarpanch (local politician).” “Women and men have equal rights to be President or Prime Minister.”, while women's social rights index is based on statements “Domestic violence by husbands cannot be justified” “Parents should seek their daughter's consent before fixing her marriage”. “Women should not necessarily get married before her 25th Birthday”. “Women who give birth to a son need not be honored in the family”. “A woman with five daughters should not be under social pressure to bear a son.”. Finally, the legal rights index combines statements “Laws should be passed to ban dowry. Under Article 35 of the Constitution of Pakistan & Judgment of Federal Shariat Court, the consent of `Wali’ is not required and a sui juris Muslim female can enter into a valid Nikah / Marriage under her own freewill without the consent of Wali. How much do you approve of this legal right of women to enter marriage under their own freewill.”

Appendix S2.5. Flow Chart



Note:All treatments were rolled out in August 2021, with the baseline data collected 6 months before treatment (February 2021), midline 12 months (September 2022) post-treatment and endline 18 months post-treatment (March 2023), respectively. For mathematics, we have test scores for 6, 12 and 18 months after the treatment, and vaccinations and absenteeism data is available at the monthly level up to 18 months post-treatment.

Appendix S3. Deviation from Pre-Registration

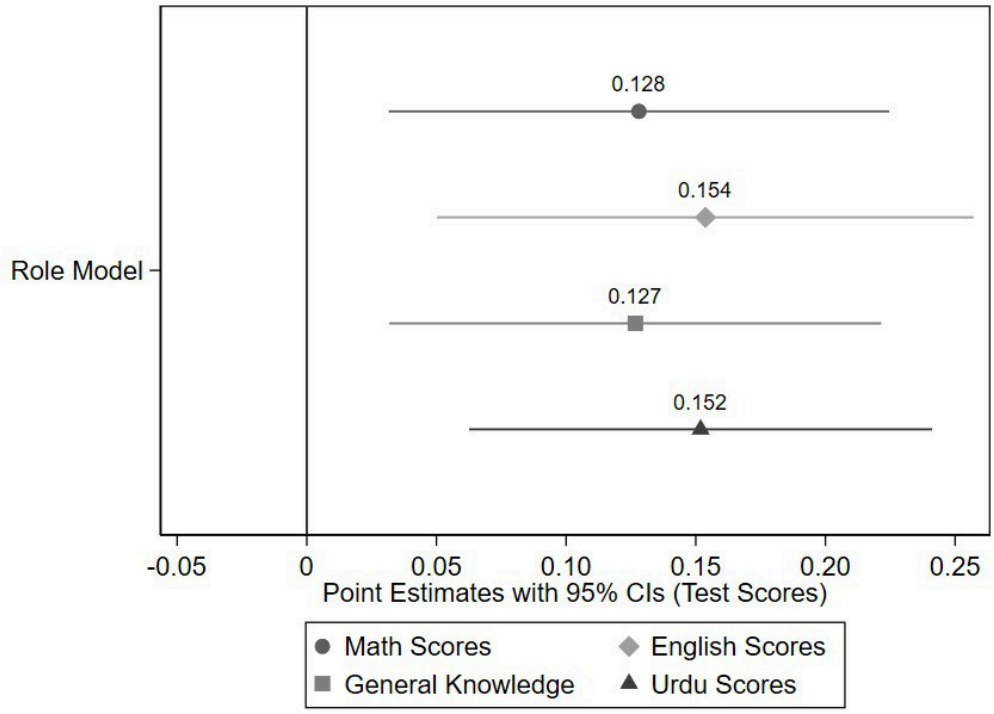
Pre-registration for the main experiment was registered in the American Economic Association registry for randomized controlled trials (AEARCTR-0008084). This appendix reports and discusses the deviations from the pre-registration.

The discrepancy between the pre-registration and the discussion of the study presented in the paper primarily concerns the primary outcomes. In the pre-registration, primary outcomes included self-reported vaccination status (collected via survey responses), outcomes on trust games, and whether teachers decided to open a bank account following the treatment. However, these endpoints were not mentioned in the paper. Several reasons account for this deviation. The project was conducted in partnership with the Progressive Education Network (PEN), which ultimately decided against the collection of self-reported vaccination status and outcomes from trust games and perspective-taking, except for the Reading the Mind in the Eyes Test (RMET) scores, following the acquisition of vaccination certificates. PEN's primary concern was to avoid overburdening the teachers. This constraint was largely due to time limitations. Furthermore, the data on the prevalence of bank accounts among teachers was gathered before the intervention. However, this variable exhibited minimal variation—with 606 out of 607 teachers already possessing a bank account prior to the experiment—rendering it unsuitable for assessing the treatment's influence on the propensity to open new accounts. Consequently, this particular variable is also not utilized in our analysis. Concurrent with the fieldwork, the research team expanded the scope of inquiry to encompass ancillary outcomes potentially influenced by teacher vaccination. Specifically, we collected data on teacher absences and student test scores to ascertain the downstream effects of treatment and vaccination on these pivotal educational metrics. Moreover, the study also was able to include a variable not delineated in the pre-registration—teachers' gender attitudes. This variable was fortuitously captured during a concurrent experiment involving the same cohort of teachers in (3). The temporal alignment of data collection, both antecedent and subsequent to the treatment allocation in the vaccination and role model experiment, furnished an opportunity to integrate this variable into the current analysis, allowing us to examine a potential alternate mechanism explaining the female role model effect.

We also gathered data on perspective-taking, operationalized through the RMET scores, disaggregated by gender to discern cognitive responses that may vary by teacher gender. RMET score was collected prior to treatment assignment and was used to explain the mechanism of role model effect on vaccination uptake. The decision to collect gender specific RMET rather than overall RMET scores was made in the process of data collection. No additional outcomes from theory of mind have been gathered.

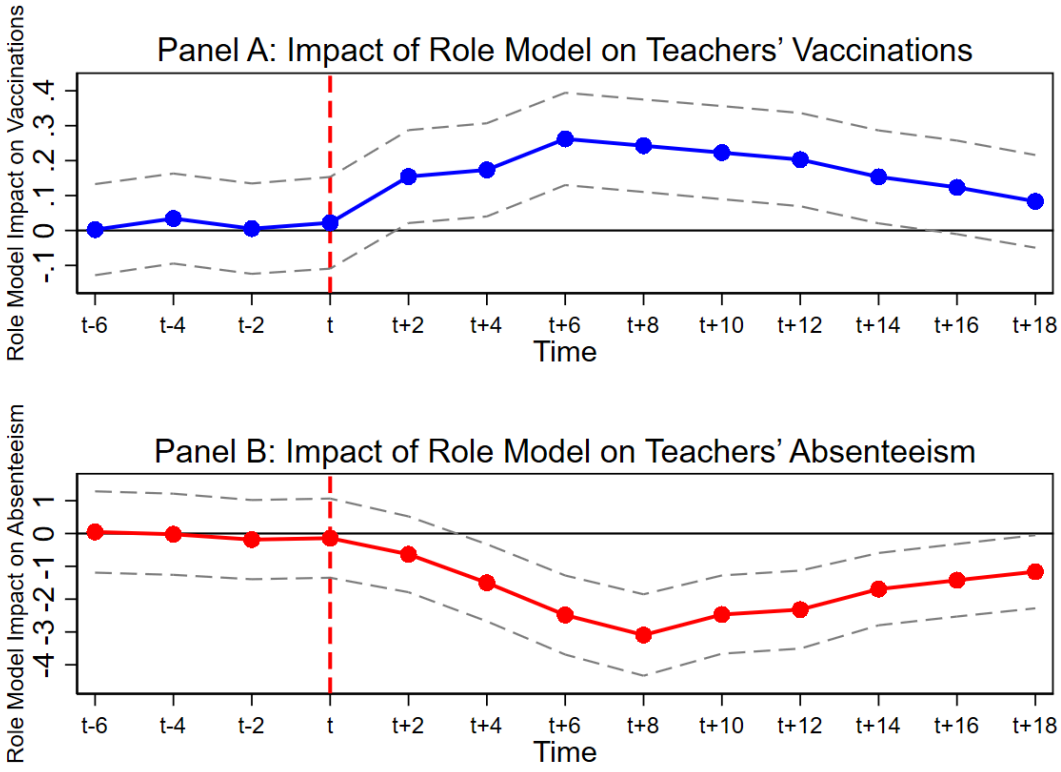
Appendix T. Robustness to the exclusion of school fixed effects

Figure T1: Impact on Student test Scores - Standardized, no fixed effects



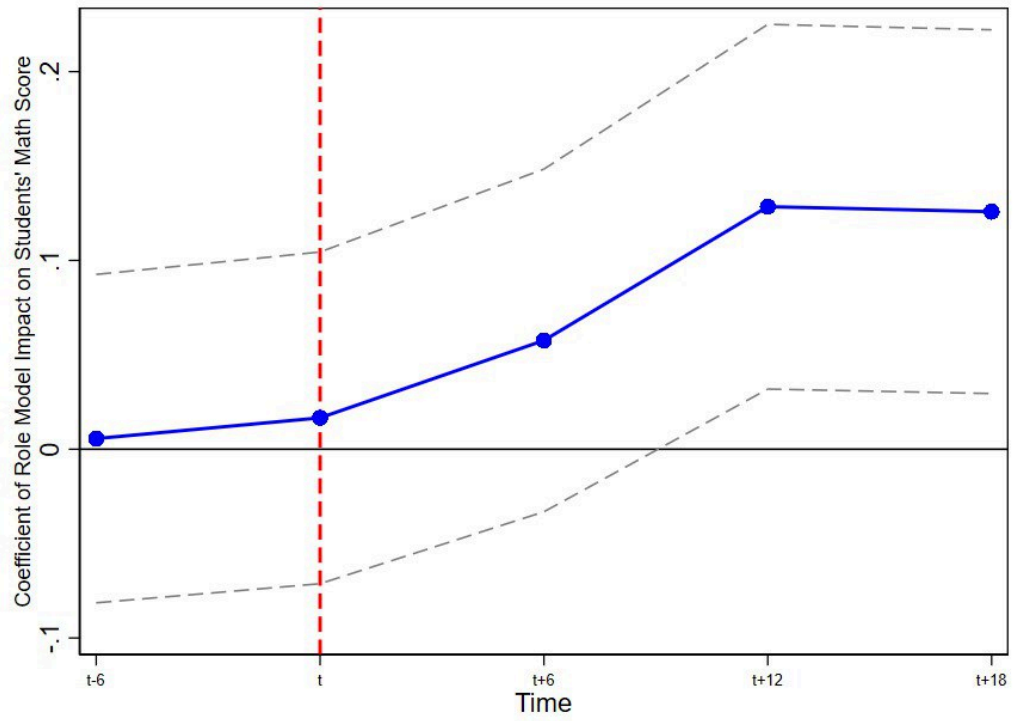
Note: The figure reports coefficient estimates corresponding to the Role Model Treatment based on specification (1) with all controls and no fixed effects are reported. The dependent variables are standardized to mean zero and standard deviation for test scores in Math, English, General Knowledge, and Urdu scores from regular examinations held 12 months following the treatment. Controls include all individual characteristics. School fixed effects are not included. 95% confidence bands are also reported. Table-form representation of this figure with coefficient estimates on all other treatments are reported in Table T7 of the Online Appendix.

Figure T2: Treatment Effect on Teachers' Absenteeism and Vaccinations in Levels, no fixed effect



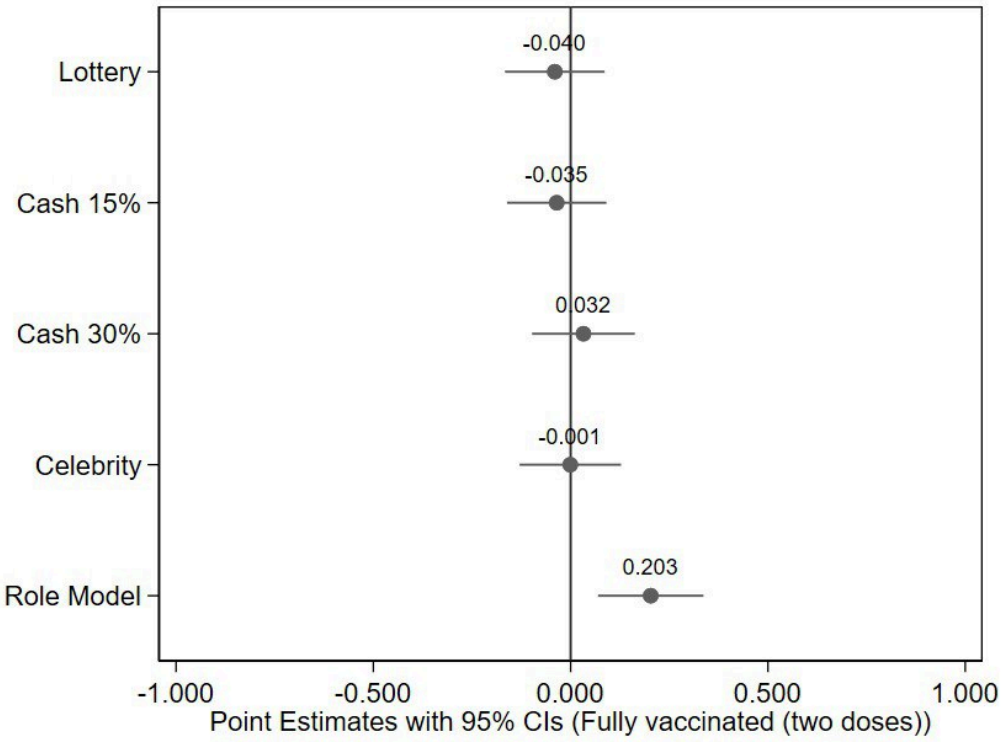
Note: The figure reports coefficient estimates corresponding to the Role Model Treatment based on specification (1) but without fixed effects and at the month level. The dependent variable in Panel A and B, are teachers' full vaccinations and absences, respectively, recorded monthly. School fixed effects are not included. 1. 95% confidence intervals are also reported. Table T2 and T3 illustrate results at month t+12 of this figure for all treatments. Both panels present results in levels.

Figure T3: Impact on Students' Mathematics Scores - Standardized, no fixed effects



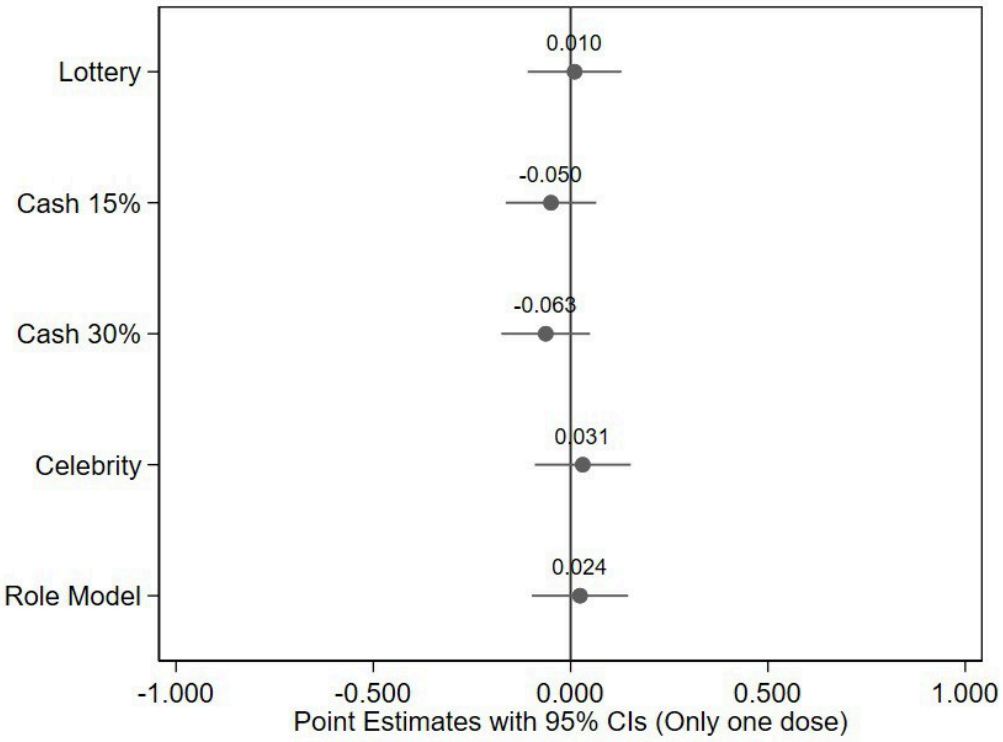
Note: The figure reports coefficient estimates corresponding to the Role Model Treatment based on specification (1), but without fixed effects. The dependent variable is students' Math score every 6 months, standardized to mean zero and standard deviation one. The record of Mathematics scores is available from six months prior to the treatment i.e., for (t-6) till (t + 18), for every semester, roughly lasting 6 months. Estimates in regression tables are for 12 months following the treatment. Controls include all individual characteristics. School fixed effects are not included. 95% confidence intervals are also reported.

Figure T4: Impact on Teacher Vaccinations in Levels, no fixed effects



Note: The figure report estimates from equation (1) with all controls. The dependent variable switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by their COVID-19 certificate. Controls include all individual characteristics. 95% confidence bands are also reported. *Lottery* is a dummy variable that switches on when the teacher was assigned the Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to 10 times her monthly salary, *Cash 15%* stands a cash award upon getting vaccinated equivalent to 15% of teachers monthly salary, while the *Cash 30%* stands for dummy switches on when the teacher has been given cash equivalent to about 30% of her monthly salary. *Celebrity* treatment requests for vaccination by a prominent celebrity. *Role Model* delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination via the same female role model. 95% Confidence Bands are also reported.

Figure T5: Impact on Vaccinations - Single Dose, no fixed effects



Note: The figure reports estimates from equation (1) with all controls. The dependent variable switches on if the teacher has taken only one dose of COVID-19 vaccination as ascertained by COVID-19 certificate. Controls include all individual characteristics. School fixed effects are not included. 95% confidence bands are also reported.

Table T1: Balance over Teacher characteristics, no fixed effects

Panel A: Teacher Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)
	Pre-Treatment COVID Vaccination	Teaching experience	Years of education	Educational Specialization	Av. Class Size	Av. Teaching Hours
Lottery	-0.037	-0.192	0.198	-0.045	-1.083	-0.473
	(0.036)	(0.374)	(0.207)	(0.061)	(2.612)	(0.315)
Cash 15%	-0.035	-0.339	0.040	0.051	-1.779	-0.452*
	(0.035)	(0.403)	(0.209)	(0.064)	(2.822)	(0.251)
Cash 30%	-0.009	-0.446	0.169	-0.001	0.329	-0.193
	(0.039)	(0.352)	(0.201)	(0.060)	(2.756)	(0.386)
Celebrity	-0.051	0.224	0.124	-0.036	0.860	0.219
	(0.034)	(0.401)	(0.203)	(0.060)	(2.854)	(0.456)
Role Model	-0.018	-0.218	0.344*	0.021	-1.267	-0.269
	(0.038)	(0.384)	(0.185)	(0.062)	(2.816)	(0.350)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607	607
R-squared	0.014	0.095	0.080	0.026	0.045	0.021
F Statistics	0.639 [0.670]	0.735 [0.597]	0.854 [0.512]	0.647 [0.664]	0.257 [0.936]	1.408 [0.219]
Mean of dependent var	0.088	4.706	12.549	0.255	25.275	30.490

Note: Robust standard errors appear in brackets (clustered at the teacher level).The dependent variables in Panel A are Pre-Treatment vaccination status dummy, teaching experience which is the years of experience in teaching. Years of Education which is the years of teachers' education. Educational Specialization is a dummy variable that switches on when a teacher has obtained pedagogical specialization. Av. Class Size is the average number of students a teacher teaches in each class. Av. Teaching Hours is the total number of teaching hours per week. Role Model delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination via the same female role model. The p-value for testing the joint significance of all treatments is reported in square brackets next to the value of the F-statistic. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T2: Balance over Student Characteristics

Panel B: Students Characteristics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Free Lunch Eligible	Single Parent	Number of Siblings	Mother Housewife	Father's Education	Mother's Education	Student Gender
Lottery	-0.016	-0.007	0.061	0.007	-0.120	-0.193	0.061
	(0.015)	(0.014)	(0.070)	(0.014)	(0.158)	(0.147)	(0.050)
Cash 15%	-0.018	-0.0003	0.019	-0.004	0.007	0.246	0.046
	(0.015)	(0.014)	(0.074)	(0.014)	(0.157)	(0.150)	(0.051)
Cash 30%	0.001	-0.002	0.039	0.002	-0.058	0.047	0.090*
	(0.016)	(0.014)	(0.076)	(0.014)	(0.156)	(0.156)	(0.050)
Celebrity	-0.021	-0.009	0.086	0.006	-0.089	0.131	0.070
	(0.015)	(0.015)	(0.071)	(0.014)	(0.151)	(0.147)	(0.050)
Role model	-0.006	0.009	0.045	0.016	-0.137	-0.098	0.066
	(0.015)	(0.014)	(0.074)	(0.013)	(0.170)	(0.156)	(0.050)
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,933	13,933	13,933	13,933	13,933	13,933	13,933
R-squared	0.001	0.016	0.006	0.0004	0.005	0.005	0.006
F Statistics	0.855 [0.511]	0.457 [0.808]	0.358 [0.877]	0.506 [0.772]	0.279 [0.924]	2.087 [0.065]	0.751 [0.586]
Mean of dependent var	0.524	0.143	3.926	0.496	9.051	8.889	0.434

Note: Robust standard errors appear in brackets (clustered at the teacher level). Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination via the same female role model. The student-level controls include dummies for whether the student is eligible for the free lunch program, dummy for single parent, number of siblings, dummy for mother being a housewife, fathers and mother's education, dummy for student's gender. The p-value for testing the joint significance of all treatments is reported in square brackets next to the value of the F-statistic. * $p<0.01$, $p<0.05$, * $p<0.1$.

Table T3: Impact on Vaccination in Levels, no fixed effects

	Fully Vaccinated				
	(1)	(2)	(3)	(4)	(5)
Lottery	-0.040	-0.042	-0.038	-0.045	-0.038
	(0.064)	(0.064)	(0.064)	(0.063)	(0.064)
Cash 15%	-0.035	-0.026	-0.036	-0.025	-0.033
	(0.064)	(0.065)	(0.064)	(0.065)	(0.064)
Cash 30%	0.032	0.034	0.034	0.033	0.035
	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)
Celebrity	-0.001	-0.001	0.0004	-0.002	0.0004
	(0.066)	(0.066)	(0.066)	(0.066)	(0.066)
Role model	0.203***	0.112*	0.213***	0.120*	0.175***
	(0.068)	(0.068)	(0.069)	(0.068)	(0.067)
Role model X Female RMET		0.116***		0.111**	
		(0.045)		(0.048)	
Role model X Male RMET			0.018	0.064	
			(0.051)	(0.049)	
Role model X Overall RMET					0.151***
					(0.054)
Female RMET		0.054**		0.063**	
		(0.022)		(0.027)	
Male RMET			0.018	-0.015	
			(0.021)	(0.025)	
Overall RMET					0.037*
					(0.020)
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607
R-squared	0.050	0.087	0.052	0.090	0.077
Mean Dependent var	0.314	0.314	0.314	0.314	0.314

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by their COVID-19 certificate, measured 12 months after the treatment. Lottery is a dummy variable that switches on when the teacher has given Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. RMET reports the total number of correct answers to a total of 20 questions, each of which asks "What emotion are the eyes showing?" on different pictures of male and female eyes. This is also standardized to mean zero and standard deviation one. The teacher-level controls include all teacher characteristics reported in Table 1. School fixed effects are not included. * p<0.01, p<0.05, * p<0.1.

Table T4: Mechanism - Impact on Teacher Absenteeism - Standardized, no fixed effects

	Teachers' Absenteeism			
	(1)	(2)	(3)	(4)
Lottery	-0.192	-0.187	-0.201	-0.188
	(0.135)	(0.134)	(0.135)	(0.136)
Cash 15%	-0.186	-0.205	-0.185	-0.205
	(0.129)	(0.130)	(0.129)	(0.130)
Cash 30%	-0.159	-0.162	-0.166	-0.162
	(0.136)	(0.135)	(0.136)	(0.135)
Celebrity	-0.190	-0.189	-0.195	-0.189
	(0.131)	(0.131)	(0.132)	(0.132)
Role Model	-0.509***	-0.301**	-0.511***	-0.302**
	(0.133)	(0.126)	(0.134)	(0.128)
Role Model X Female RMET		-0.282***		-0.283***
		(0.094)		(0.099)
Role Model X Male RMET			0.086	-0.001
			(0.101)	(0.101)
Female RMET		-0.113**		-0.111*
		(0.057)		(0.065)
Male RMET			-0.062	-0.003
			(0.052)	(0.058)
Individual Teacher Controls	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.024	0.067	0.027	0.067

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable is the total number of absences recorded after 12 months post treatment which is standardized to mean zero and standard deviation one and measured 12 months following the treatment. Lottery is a dummy variable that switches on when the teacher was assigned the Lottery treatment i.e., opportunity to win a "lucky draw" equivalent to 10 times her monthly salary, Cash 15% stands a cash award upon getting vaccinated equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has been given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination delivered via the same female role model. RMET reports the total number of correct answers to a total of 20 questions, each of which asks "What emotion are the eyes showing?" on different pictures of male and female eyes. This is also standardized to mean zero and standard deviation one. The teacher-level controls include all teacher characteristics reported in Table 1. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T5: Mechanism - Impact on Teacher's Reason for Absence - Standardized, no fixed effects

	COVID is Reason for Absence		All Other Reasons for Absence	
	(1)	(2)	(3)	(4)
Lottery	-0.197	-0.194	0.000	0.002
	(0.137)	(0.138)	(0.142)	(0.142)
Cash 15%	-0.215*	-0.209	0.021	-0.008
	(0.128)	(0.129)	(0.146)	(0.146)
Cash 30%	-0.173	-0.171	0.018	0.015
	(0.133)	(0.134)	(0.141)	(0.141)
Celebrity	-0.186	-0.185	-0.061	-0.039
	(0.128)	(0.130)	(0.142)	(0.142)
Role Model	-0.334***	-0.329**	0.074	0.071
	(0.128)	(0.130)	(0.149)	(0.147)
Role Model X Female RMET	-0.306***	-0.310***	0.068	0.071
	(0.099)	(0.100)	(0.103)	(0.104)
Role Model X Male RMET	-0.018	-0.022	0.082	0.084
	(0.100)	(0.101)	(0.099)	(0.097)
Female RMET	-0.113*	-0.111*	-0.011	-0.014
	(0.064)	(0.065)	(0.055)	(0.056)
Male RMET	0.005	0.003	-0.033	-0.024
	(0.058)	(0.059)	(0.053)	(0.053)
Individual Teacher Controls	No	Yes	No	Yes
Observations	607	607	607	607
R-squared	0.073	0.074	0.004	0.025

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable in columns (1) and (2) is the total number of absences due COVID illness and measured 12 months following the treatment. The dependent variable in columns (3) and (4) is the total number of absences due to other reasons (i.e., marriage, funeral) recorded after 12 months post treatment. The dependent variables are standardized to mean zero and standard deviation one. Lottery is a dummy variable that switches on when the teacher was assigned the Lottery treatment i.e., opportunity to win a "lucky draw" equivalent to 10 times her monthly salary, Cash 15% stands a cash award upon getting vaccinated equivalent to 15% of teachers monthly salary, while the Cash 30% stands for dummy switches on when the teacher has been given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination delivered via the same female role model. RMET reports the total number of correct answers to a total of 20 questions, each of which asks "What emotion are the eyes showing?" on different pictures of male and female eyes. This is also standardized to mean zero and standard deviation one. The teacher-level controls include all teacher characteristics reported in Table 1. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T6: Impact on Lumpy versus Short Leaves - Standardized, no fixed effects

	Lumpy Absences > 7 Days		Short Absences < 7 Days	
	(1)	(2)	(3)	(4)
Lottery	-0.146	-0.134	-0.087	-0.101
	(0.129)	(0.130)	(0.139)	(0.139)
Cash 15%	-0.194	-0.176	-0.041	-0.056
	(0.132)	(0.133)	(0.141)	(0.142)
Cash 30%	-0.218	-0.215	-0.018	-0.024
	(0.133)	(0.133)	(0.142)	(0.142)
Celebrity	-0.170	-0.168	-0.064	-0.064
	(0.130)	(0.132)	(0.140)	(0.141)
Role Model	-0.360***	-0.350**	0.099	0.084
	(0.139)	(0.141)	(0.146)	(0.148)
Individual Teacher Controls	No	Yes	No	Yes
Observations	607	607	607	607
R-squared	0.011	0.017	0.004	0.008

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable in Columns 1 and 2 is a dummy that switches on if the teacher has taken a consecutive leave for more than 7 days. The dependent variable in Columns 3 and 4 is a dummy that switches on if the teacher has taken a consecutive leave for 7 days or less. These variables are standardized to mean zero and standard deviation one and measured 12 months following the treatment. Lottery is a dummy variable that switches on when the teacher is assigned the Lottery treatment i.e., opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T7: Alternate Mechanism - Impact on Gender Attitudes, no fixed effects

	Women's Rights Overall	Women's Economic Rights	Women's Political Rights	Women's Social Rights	Women's Legal Rights
	(1)	(2)	(3)	(4)	(5)
Lottery	0.067	0.103*	0.032	0.041	0.047
	(0.054)	(0.055)	(0.103)	(0.102)	(0.091)
Cash 15%	-0.028	0.076	-0.020	-0.177*	-0.027
	(0.049)	(0.052)	(0.089)	(0.100)	(0.077)
Cash 30%	-0.096**	-0.041	-0.142*	-0.172*	-0.049
	(0.046)	(0.048)	(0.079)	(0.096)	(0.075)
Celebrity	-0.049	0.013	-0.081	-0.124	-0.048
	(0.049)	(0.049)	(0.087)	(0.107)	(0.073)
Role Model	-0.055	0.057	-0.079	-0.210**	-0.038
	(0.047)	(0.049)	(0.087)	(0.094)	(0.076)
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607
R-squared	0.024	0.022	0.013	0.021	0.012

Note: Robust standard errors appear in brackets (clustered at the teacher level). Women's Rights Overall is an index consisting of all the statements concerning Women's Economic, Social, Legal and Political Rights. Women's Economic Rights is an index combining women's rights to education and work outside home, based on reactions to statements "Women should be allowed to work outside the home". "Women and men should have equal rights to jobs". "I have no problem with my sister or female cousin working outside the home". "Daughters should have the same right to inherit property as sons". "Women and men should have equal rights to get an education". "Wives should not be less educated than their husbands". "Boys should not have more opportunities and resources for education than girls.". Women's Political Rights is based on statements "It would be a good idea to elect a woman as the village Sarpanch (local politician)." "Women and men have equal rights to be President or Prime Minister.". Women's Social Rights is based on statements "Domestic violence by husbands cannot be justified" "Parents should seek their daughter's consent before fixing her marriage". "A woman should not necessarily get married before her 25th Birthday". "Women who give birth to a son need not be honored in the family". "A woman with five daughters should not be under social pressure to bear a son.". Finally, the Women's Legal Rights index is based on statements "Laws should be passed to ban dowry.". "Under Article 35 of the Constitution of Pakistan & Judgment of Federal Shariat Court, the consent of `Wali' is not required and a sui juris Muslim female can enter into a valid Nikah / Marriage under her own free will without the consent of Wali. To what extent do you approve of this legal right of women to enter marriage under their own free will". Lottery is a dummy variable that switches on when the teacher is assigned Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to about 10 times teachers' monthly salary, Cash 15% stands a cash award equivalent to 15% of teachers' monthly salary, while the Cash 30% stands for dummy switches on when the teacher has given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T8: Impact on Students' Test Scores - Standardized, no fixed effects

	(1)	(2)	(3)	(4)
	Mathematics	*English*	*General Knowledge*	*Urdu*
Lottery	-0.051*	0.018	-0.043	-0.015
	(0.029)	(0.029)	(0.031)	(0.029)
Cash 15%	-0.041	0.008	-0.010	0.015
	(0.031)	(0.029)	(0.032)	(0.030)
Cash 30%	-0.026	0.045	-0.012	0.021
	(0.029)	(0.032)	(0.030)	(0.029)
Celebrity	0.026	-0.009	-0.007	-0.001
	(0.030)	(0.031)	(0.030)	(0.030)
Role Model	0.128***	0.154***	0.127***	0.152***
	(0.049)	(0.053)	(0.048)	(0.045)
Individual Controls	Yes	Yes	Yes	Yes
Observations	13,933	13,933	13,933	13,933
R-squared	0.004	0.004	0.004	0.004

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variables are test scores that are standardized to mean zero and standard deviation for Math, English, General Knowledge and Urdu standardized test scores. Lottery is a dummy variable that switches on when the teacher was assigned the Lottery treatment i.e. opportunity to win a "lucky draw" equivalent to 10 times her monthly salary, Cash 15% stands a cash award upon getting vaccinated equivalent to 15% of teachers monthly salary, while the Cash 30% stands for dummy switches on when the teacher has been given cash equivalent to about 30% of her monthly salary. Celebrity treatment requests for vaccination by a prominent celebrity. Role Model delivers the same message but via the medium of a female role model. A placebo group is assigned an equal length message unrelated to COVID-19 vaccination via the same female role model. The student-level controls include all student characteristics reported in Table S3. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T9: Impact of Role Model on Vaccination Status, no fixed effects

Panel A. Second-stage least squares results				
	(1)	(2)	(3)	(4)
	Mathematics	*English*	*General Knowledge*	*Urdu*
Full Vaccination	0.675**	0.643**	0.676**	0.680***
	(0.275)	(0.287)	(0.283)	(0.253)
Individual Controls	Yes	Yes	Yes	Yes
Observations	13,933	13,933	13,933	13,933
Panel B. First-stage results				
			Full Vaccination	
Role model			0.214***	
			(0.054)	
Individual Controls			Yes	
Observations			13,933	
F-statistic			15.545	
Mean Dependent var			0.315	

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable in Columns (1) switches on if the teacher is fully vaccinated against COVID-19. The dependent variables in Columns 2, 3, 4 and 5 are standardized to mean zero and standard deviation one scores for Mathematics, English, General Knowledge, and Urdu. Role Model treatment delivers the same message as the celebrity but via the medium of a female role model. First-stage in Column 1 is the same for all second-stage regressions from Columns 2, 3, 4, and 5. The teacher-level and student-level controls include all teacher and student characteristics reported in Table 1 and Table S3 respectively. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T10: Impact of Vaccination Status on Absenteeism, no fixed effects

Panel A. Second-stage least squares results			
	(1)	(2)	(3)
	Teachers' Absenteeism	COVID is Reason for Absence	All Other Reasons for Absence
Full Vaccination	-1.719***	-1.881***	0.437
	(0.663)	(0.694)	(0.509)
Individual Controls	Yes	Yes	Yes
Observations	607	607	607
Panel B. First-stage results			
		Full Vaccination	
Role model		0.212***	
		(0.054)	
Individual Controls		Yes	
Observations		607	
F-statistic		15.54	
Mean Dependent var		0.314	

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable in Column 1 is the total number of absences recorded after 12 months post-treatment. The dependent variable in Column 2 is the total number of absences due to COVID illness measured 12 months following the treatment. The dependent variable in Column 3 is the total number of absences due to other reasons (i.e., marriage, funeral) recorded after 12 months post-treatment. The dependent variables are standardized to mean zero and standard deviation one. Role Model treatment delivers the same message as the celebrity but via the medium of a female role model. The first stage in Column 1 is the same for all second-stage regression from Columns 2, 3 and 4. The teacher-level controls include all teacher characteristics reported in Table 1. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T11: Impact on Vaccinations and Student Achievement – Assessing Spillovers, no fixed effects

	(1)	(2)	(3)	(4)	(5)
	Full Vaccination	*Math*	*English*	*General Knowledge*	*Urdu*
Fraction of Role Model Treated Teachers X Role Model	0.240	0.763***	0.760***	0.658***	0.551***
	(0.724)	(0.189)	(0.221)	(0.198)	(0.199)
Role Model	0.368	-0.067	-0.040	-0.041	0.011
	(0.236)	(0.083)	(0.095)	(0.086)	(0.082)
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
Observations	607	13,933	13,933	13,933	13,933
R- squared	0.050	0.006	0.006	0.005	0.005

Note: Robust standard errors appear in brackets (clustered at the teacher level). The dependent variable in Column (1) switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by COVID-19 certificates. This variable is standardized to mean zero and standard deviation one. The dependent variables in Columns 2, 3, 4 and 5 are standardized to mean zero and standard deviation one scores for Mathematics, English, General Knowledge, and Urdu. The Fraction of Role Model Treated Teachers is the proportion of teachers treated with the Role Model treatment within a school. Role Model treatment delivers the same message as the celebrity but via the medium of a female role model. The teacher-level and student-level controls include all teacher and student characteristics reported in Table 1 and Table S3 respectively. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T12: Impact on Vaccinations and Student Achievement – Multiple Hypothesis Test, no fixed effects

	(1)	(2)	(3)	(4)	(5)
	Full Vaccination	*Math*	*English*	*General Knowledge*	*Urdu*
Role model	0.203	0.128	0.154	0.127	0.152
p-value	(0.003) ***	(0.009) ***	(0.004) ***	(0.009) ***	(0.001) ***
Sharpened q-value	[0.016] **	[0.044] **	[0.036] **	[0.044] **	[0.018] **
FWER p-value	{0.001} ***	{0.005} ***	{0.002} ***	{0.004} ***	{<0.001} ***
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
Observations	607	13,933	13,933	13,933	13,933
R- squared	0.050	0.004	0.004	0.004	0.004

Note: p-values from our baseline regression (1) appear in parentheses for comparison, while Anderson q-values are reported in square brackets. Note that the sharpened q-values can be less than unadjusted p-values when several hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections too and still maintain a low false discovery rate. List et al., (2021)'s familywise error rate corrected (FWER) p-values are reported in curly brackets. This extends the False Discovery Rate (FDR) method by incorporating the point-dependence structure of different treatments, allowing p-values to be correlated while adjusting for multiple hypotheses and controlling for the familywise error rate. In the reported results of FWER correct p-values, we pool p-values across both outcomes and treatments in a single family. The dependent variable in column (1) switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by COVID-19 certificate. This variable is standardized to mean zero and standard deviation one. The dependent variables in Columns 2, 3, 4 and 5 are standardized to mean zero and standard deviation for Mathematics, English, General Knowledge, and Urdu test scores. Role Model emphasizes the same message as the celebrity but via the medium of a female role model. The teacher-level and student-level controls include all teacher and student characteristics reported in Table 1 and Table S3 respectively. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T13: Impact on Teacher Absenteeism – Multiple Hypothesis Test, no fixed effects

	(1)	(2)	(3)	(4)	(5)
	Teachers' Absenteeism	COVID *is Reason for Absence*	*All Other Reasons for Absence*	*Short Absences*	*Lumpy Absences*
Role model	-0.509	-0.547	0.089	0.084	-0.350
p-value	(<0.001) ***	(<0.001) ***	(0.524)	(0.571)	(0.013) **
Sharpened q-value	[0.002] ***	[0.002] ***	[0.682]	[0.682]	[0.111]
FWER p-value	{<0.001} ***	{<0.001} ***	{0.967}	{0.972}	{0.013} **
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607
R-squared	0.024	0.028	0.022	0.008	0.017

Note: p-values from our baseline regression (1) appear in parentheses for comparison, while Anderson q-values are reported in square brackets. Note that the sharpened q-values can be less than unadjusted p-values when several hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections too and still maintain a low false discovery rate. List et al., (2021)'s familywise error rate corrected (FWER) p-values are reported in curly brackets. This extends the False Discovery Rate (FDR) method by incorporating the point-dependence structure of different treatments, allowing p-values to be correlated while adjusting for multiple hypotheses and controlling for the familywise error rate. In the reported results of FWER correct p-values, we pool p-values across both outcomes and treatments in a single family. The dependent variable in Column 1 is the total number of absences recorded after 12 months post treatment. The dependent variable in Column 2 is the total number of absences due COVID illness. The dependent variable in Column 3 is the total number of absences due to other reasons (i.e., marriage, funeral). The dependent variable in Columns 4 is a dummy that switches on if the teacher has taken a consecutive leave for 7 days or less. The dependent variable in Column 5 is a dummy that switches on if the teacher has taken a consecutive leave for more than 7 days. Dependent variables are standardized to mean zero and standard deviation one and measured 12 months following the treatment. Role Model emphasizes the same message as the celebrity but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported in Table 1. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T14: Role Model and RMET Score Impact on Vaccination– Multiple Hypothesis Test, no fixed effects

	Fully Vaccinated			
	(1)	(2)	(3)	(4)
Role model	0.238	0.451	0.253	0.371
p-value	(0.098) *	(0.002) ***	(0.079) *	(0.009) ***
Sharpened q-value	[0.197]	[0.014] **	[0.225]	[0.033] **
FWER p-value	{0.090} *	{0.001} ***	{0.099} *	{0.003} ***
Role model X Female RMET	0.246		0.234	
p-value	(0.009) ***		(0.021) **	
Sharpened q-value	[0.051] *		[0.105]	
FWER p-value	{0.004} ***		{0.021} **	
Role model X Male RMET		0.038	0.135	
p-value		(0.723)	(0.195)	
Sharpened q-value		[0.999]	[0.415]	
FWER p-value		{0.894}	{0.331}	
Role model X Overall RMET				0.320
p-value				(0.006) ***
Sharpened q-value				[0.033] **
FWER p-value				{0.003} ***
Female RMET	0.115		0.134	
p-value	(0.014) **		(0.020) **	
Sharpened q-value	[0.051] *		[0.105]	
FWER p-value	{0.007} ***		{0.021} **	
Male RMET		0.039	-0.033	
p-value		(0.376)	(0.541)	
Sharpened q-value		[0.999]	[0.785]	
FWER p-value		{0.733}	{0.840}	
Overall RMET				0.079
p-value				(0.058) *
Sharpened q-value				[0.107]
FWER p-value				{0.038} **
Individual Teacher Controls	Yes	Yes	Yes	Yes
Observations	607	607	607	607
R-squared	0.087	0.052	0.090	0.077

Note: p-values from our baseline regressions appear in parentheses for comparison, while Anderson q-values are reported in square brackets. Note that the sharpened q-values can be less than unadjusted p-values when several hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections too and still maintain a low false discovery rate. List et al., (2021)'s familywise error rate corrected (FWER) p-values are reported in curly brackets. This extends the False Discovery Rate (FDR) method by incorporating the point-dependence structure of different treatments, allowing p-values to be correlated while adjusting for multiple hypotheses and controlling for the familywise error rate. In the reported results of FWER correct p-values, we pool p-values across both outcomes and treatments in a single family. The dependent variable in column (1) switches on if the teacher has taken two doses of COVID-19 vaccination as ascertained by COVID-19 certificate. Dependent variable is standardized to mean zero and standard deviation one and measured 12 months following the treatment. Role Model emphasizes the same message as the celebrity but via the medium of a female role model. RMET reports the total number of correct answers to a total of 20 questions, each of which asks "What emotion are the eyes showing?" on different pictures of male and female eyes. This is also standardized to mean zero and standard deviation one. The teacher-level controls include all teacher characteristics reported in Panel A of Table 1. The student-level controls include all student characteristics reported in Table 1. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Table T15: Impact on Gender Attitudes – Multiple Hypothesis Test, no fixed effects

	(1)	(2)	(3)	(4)	(5)
	Women's Rights Overall	Women's Economic Rights	Women's Political Rights	Women's Social Rights	Women's Legal Rights
Role Model	-0.055	0.057	-0.079	-0.210	-0.038
p-value	(0.236)	(0.250)	(0.363)	(0.025) **	(0.620)
Sharpened q-value	[0.761]	[0.761]	[0.969]	[0.467]	[0.999]
FWER p-value	{0.673}	{0.695}	{0.851}	{0.041} **	{0.969}
Individual Teacher Controls	Yes	Yes	Yes	Yes	Yes
Observations	607	607	607	607	607
R-squared	0.024	0.022	0.013	0.021	0.012

Note: p-values from our baseline regression (1) appear in parentheses for comparison, while Anderson q-values are reported in square brackets. Note that the sharpened q-values can be less than unadjusted p-values when several hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections too and still maintain a low false discovery rate. List et al., (2021)'s familywise error rate corrected (FWER) p-values are reported in curly brackets. This extends the False Discovery Rate (FDR) method by incorporating the point-dependence structure of different treatments, allowing p-values to be correlated while adjusting for multiple hypotheses and controlling for the familywise error rate. In the reported results of FWER correct p-values, we pool p-values across both outcomes and treatments in a single family. Women's Rights Overall is an index consisting of all the statements concerning Women's Economic, Social, Legal and Political Rights. Women's Economic Rights is an index combining women's rights to education and work outside home, based on reactions to statements "Women should be allowed to work outside the home". "Women and men should have equal rights to jobs". "I have no problem with my sister or female cousin working outside the home". "Daughters should have the same right to inherit property as sons". "Women and men should have equal rights to get an education". "Wives should not be less educated than their husbands". "Boys should not have more opportunities and resources for education than girls.". Women's Political Rights is based on statements "It would be a good idea to elect a woman as the village Sarpanch (local politician)." "Women and men have equal rights to be President or Prime Minister.". Women's Social Rights is based on statements "Domestic violence by husbands cannot be justified" "Parents should seek their daughter's consent before fixing her marriage". "A woman should not necessarily get married before her 25th Birthday". "Women who give birth to a son need not be honored in the family". "A woman with five daughters should not be under social pressure to bear a son.". Finally, the Women's Legal Rights index is based on statements "Laws should be passed to ban dowry.". "Under Article 35 of the Constitution of Pakistan & Judgment of Federal Shariat Court, the consent of `Wali' is not required and a sui juris Muslim female can enter into a valid Nikah / Marriage under her own free will without the consent of Wali. To what extent do you approve of this legal right of women to enter marriage under their own free will". Role Model emphasizes the same message as the celebrity but via the medium of a female role model. The teacher-level controls include all teacher characteristics reported Table 1. School fixed effects are not included. *** p<0.01, ** p<0.05, * p<0.1.

Appendix U. Data and Attrition Balance

Sample.— The sample consists of all 607 teachers and their 13,911 students across all 52 schools chartered by the PEN network in the State of Punjab. Our pre-registration was brief following recent suggestions in (3) for moderation in pre-analysis plans. As is common in most primary schools in Pakistan, all teachers are *female* and teach every class from Kindergarten to Grade 6. The students, however, are of mixed-gender in public schools of Pakistan at the primary level. Our sample consists of 7107 boys and 6804 girls with age in the range of 5 to 12 years. The PEN network organizes several training workshops for teachers, and our experiment took place within one of the PEN teacher training drives in early 2021. As a result of having our experiment embedded within PEN's regular training programs, we essentially have no attrition. All 607 PEN teachers in the State of Punjab participated. Close collaboration and cooperation with the PEN leadership and teacher training department, in particular, also allowed us access to detailed administrative data on teachers, including their monthly absenteeism and COVID-19 vaccination certificates.

Outcome Variables on Teachers and Students.— Our key pre-registered outcome variable is a COVID-19 vaccination dummy variable that switches on if the teacher gets 2 doses of vaccine. This happens only if we confirm via COVID-19 certification and embedded QR code within the certificate whether the COVID vaccination took place *after* our treatment rollout. In the case of vaccination taking place after the treatment, this variable takes the value of one. Vaccination status is measured 12 months after the treatment. We also measure teacher absenteeism by the attendance rate of the teacher post-treatment. PEN administrative data is used to construct this variable at the teacher level. We standardize the latter variable to mean zero and standard deviation one. The student outcome variables are test scores for English and Urdu Languages, Mathematics and General Knowledge measured on national examinations held about 12 months following the treatments. These standardized examinations are taken by all PEN school students. However, to make comparisons of effect sizes, we standardized these test scores to mean zero and standard deviation one. For evaluation of an alternate mechanism, we use as outcomes, gender indices which we construct using methodology outlined in Appendices S2.3 and S2.4. For more details on the experimental set-up, please refer to the flow chart presented in Appendix S2.5.

Main Explanatory Variables.— In addition to the explanatory variables corresponding to the five treatments, we investigate whether teachers that empathize more with the gender identity of the role model are more likely to be impacted by the role model treatment. To do this, we pre-register the

Reading the Mind in the Eyes Test (RMET) and examine if the impact differs by gender of the RMET eyes. RMET assesses the ability to recognize mental states and emotions of others as expressed by human eyes. The participants pick one of four words which they think best describes what the person in each photograph is thinking or feeling (see Figure S3 in the Appendix for an example).[4] We also include a number of teacher and student level controls. The teacher level controls include pre-treatment COVID vaccination status, years of teaching experience, years of education, educational qualification, average teaching hours and class size. Student level controls include dummies for eligibility of students to the PEN network's free lunch program and if the student is raised by a single parent, number of siblings, dummy for whether mother is a 'housewife', mothers' and fathers' education level.

Attrition and Balance.— Collaboration with the PEN network not only gives us access to administrative data but also allows us to embed the treatment during one of PEN's regular training drives. This meant that attrition was zero for teachers, and student attrition amounted to only about 30 students.[5] Nevertheless, a lack of balance might still bring to question the causal interpretation of our results. We therefore examine whether our randomization was successful in creating balance among teachers and students. Table 1 shows individual characteristics, with Panel A reporting the treatments being balanced over individual teacher characteristics, and Panel B on student characteristics. Differences across treatment groups are small in magnitude, and almost all estimated p-values exceed 0.10; however, we observed marginal significance for the role model treatment group. This consideration is important as it might influence the interpretation of our results. We include all available controls to ensure tighter treatment-control comparisons. The complete list of control variables includes pre-treatment COVID vaccination status, years of teaching experience, years of education, educational qualification, average teaching hours, and class size as teacher-level controls. Additionally, we account for student-level controls such as eligibility for the PEN network's free lunch program, whether the student is raised by a single parent, the number of siblings, a dummy for whether the mother identifies as a 'housewife', and the education levels of both mothers and fathers. A more detailed description of the variables is provided in the notes of Table 1. We also conducted several robustness checks to mitigate the likelihood that randomization imbalance is driving our results. These

[4] More specifically, the RMET calculates the number of correct answers to read the emotion based on a picture of a pair of 20 eyes, with half of the pictures being male and the other half females.

[5] This take-up was only possible due to gracious support and leadership of the Director of Training and Research, Miss Sumera Morris and her staff at PEN.

checks include robustness to alternative clustering, exclusion of teachers with the fewest and most students, and robustness to different sets of controls. The results of these checks can be found in Tables S18, S19, and S20, respectively.

Appendix V. Robustness and Discussion

Spillovers.—Our experiment allowed us to randomly allocate treatment at the teacher-level for 607 teachers across 52 schools, which together enroll about 15000 students. However, students and teachers in the treated and control groups may interact within a school. This can lead to potential spillover effects if individuals in the control group also end up being partially treated. First, to the extent there are spillovers within a school, the estimate may then be considered as a lower bound on the impact of the treatments. Second, spillovers between teachers across schools are likely to be small in our context because of the geographic dispersion of schools and the teachers' heavy responsibilities at work and home. Third, our experimental design allows us to ascertain the extent of these spillover effects. That is, we exploit the variation in treated teachers within schools across the 52 PEN schools in our sample to explore how it impacts vaccinations and student test scores. Table S11 (Column 1) of the Online Appendix shows that as more teachers get treated with the role model treatment within a school, the effect of role model treatment does not dissipate for vaccinations status. However, in Columns 2, 3, 4 and 5 of Table S11, we observe that there is a positive spillover effect on students' test scores for role model treated teachers of having more teachers treated within school. This could indicate that students in the school may benefit from each other within the school.[6] Last, we leverage the fact that our cash and celebrity treatments had no impact on vaccinations, absenteeism or test scores over the placebo group. This allows us to investigate whether the fraction of schools treated with the role model causes the placebo group to increase vaccinations. Under the assumption that a higher fraction of treated teachers leads to a greater likelihood for interactions between treated teachers and control teachers, we assess the impact of fraction of treated teachers on the control teacher's outcomes. However, we find little impact of fraction of treated teachers among control teachers on vaccinations or absenteeism (Table S13). The null effect of more intensely treated schools holds for Lottery, Cash, Celebrity and Placebo assigned teachers. Taken together, the evidence strongly suggests that spillover effects between treated and control teachers, even if they exist, are likely to be small in magnitude or more statistical power is needed to detect them.

Experimental Demand.— Experimental demand is also unlikely to explain our results for at least three reasons. First, we observe a virtually zero effect on teachers and students of all but the role model treatment. Since all the treatments attempted to increase teacher vaccinations but only one of

[6]For the distribution of fraction of treated teachers by the role model within a school, see Figure S8 in the Appendix.

them succeeded in doing so, therefore, experimental demand alone is unlikely to explain our results. Second, COVID-19 vaccinations as confirmed by official QR verifiable certificates indicate that our treatment had real impacts with teachers getting vaccinated beyond just intention to get vaccinated. Last, the impact on student achievement is challenging to explain with experimental demand effects since we only treated teachers not students. All these factors together suggest experimental demand is unlikely to explain the results.

Multiple Hypothesis Testing. — Given that we are testing multiple hypotheses, we also examine whether our results might be explained by false positives. Under the assumption that the treatments have no effect on any of our outcomes (all our null hypotheses are true), then the probability of at least one false rejection when using a critical value of 0.05 is about 60%. Consequently, we adjust for the fact that we are testing for multiple hypotheses by using sharpened False Discovery Rate (FDR) q-values. The sharpened q-values are reported in square brackets in Table S14, S15, S16, S17 and S22 of Supplementary Material, which also shows standard p-values from our baseline regressions in parentheses for comparison. Similar results are obtained when we deploy familywise error rate correction (FWER); this extends the False Discovery Rate (FDR) method by using a bootstrapping approach, incorporating point-dependence structure of different treatments and controlling for the familywise error rate i.e., the probability of one or more false rejections.[7] The results, reported in Table S14, S15, S16, S17 and S22 of Appendix suggest that false positives are unlikely to explain our results.

Sample Size and Randomization Inference.— Finally, we conduct a randomization inference check. Our collaboration with the PEN network enables us to randomly assign treatments to teachers within schools and hence include school fixed-effects, which makes within-school comparisons possible. Our sample size is about 600 teachers and 15000 students, and likely has more statistical power than several important experimental studies, for instance, the Abecedarian Program (n = 111), the Perry Preschool Program (n = 123), and the Jamaican Study (n = 129) (5; 6; 7). We should nevertheless, be cautious that our results may be driven by an idiosyncratic sample. To engage with this issue, we follow (8)'s suggestion to conduct a randomization inference test by scrambling the data,

[7] We apply the most strident test that pools p-values across both outcomes and treatments in a single family. MHT adjusted p-values can in fact be less conservative (their p-values can be smaller), as Anderson (2008) notes, MHT q-values can be less than unadjusted p-values when many hypotheses are rejected, because if there are many true rejections, you can tolerate several false rejections and still maintain a low false discovery rate. In the familywise error correction, the adjusted p-values can also be larger when the original resample based p-value is lower than the model p-value.

reassigning treatments, and comparing the distribution of control estimates with the estimates from the experiment. The resulting p-values for 10000 iterations of this process are reported in Table S18 of the Online Appendix. The treatment effects are still statistically significant at conventional levels, suggesting that an idiosyncratic draw is unlikely to explain our results.

Additional Sensitivity Checks. — We conduct a series of additional robustness checks and find our main results remain essentially unchanged. For instance, in Table S19 of Appendix S1, we show results are robust to alternative clustering of standard errors. In Table S20, we show that our results are similar when we drop teachers with the least and most number of students. We also show that in Table S21 that our results are essentially identical when we vary our choice of control variables. All these checks further reinforce the results as real and robust.

External Validity. — (9) notes that "all results are externally valid to some setting, and no result will be externally valid to all settings." These public teachers, their selection mechanisms and training are similar to many other developing countries, especially India and Bangladesh who, like Pakistan, have government hired students based on a system that was inherited from the British Colonial rule of the Indian subcontinent. Pakistan, India and Bangladesh alone consist of more than a quarter of world population making this study particularly relevant for a large number of people. We also follow (9)'s SANS (Selection-Attrition-Naturalness-Scaling) conditions in our discussion of generalizability of our results. First, in terms of selection, our sample consists of public school teachers that were scheduled to be trained at government's regular training drive. Considering the naturalness of the setting, time frame and choice task, we use many natural measures such as vaccinations as verified by their vaccination certificates. The teachers are not placed on an artificial margin and perform many of their natural tasks in the field. Finally, in terms of scaling our intervention to understand how conditional cash transfers and role model interventions be utilized in other settings, the intervention is cheap to deliver and may be particularly useful for developing countries facing strict resource constraints and we note this is the first evidence from the Global South using COVID-19 vaccination certificates.

However, it is important to exercise caution when interpreting the null effects of the incentive treatments in our study. In low-trust contexts, such as Pakistan, incentives for vaccinations might inadvertently signal that the vaccines are risky, which could undermine the direct positive effects of

the incentives (10). In contrast, similar experiments in high-trust societies like Sweden demonstrated that cash awards of US 24$, which approximately amounts to 1% of average salary, increased vaccination by 4% (11). Additionally, the effectiveness of the role model treatment over the celebrity treatment might be influenced by the gender difference, as our role model was female and the celebrity was male. This suggests that gender dynamics, in conjunction with the low-trust context, might affect the outcomes. Therefore, while our results are a WAVE1 insight, as per (9) terminology, further replications in different contexts are necessary to fully understand the external validity of these findings.

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