

Supporting Information for "From Posting to Voting: The Effects of Political Competition on Online Political Engagement"

Jaime E. Settle* Robert Bond† Lorenzo Coviello‡ Christopher J. Fariss§
James Fowler¶ Jason Jones|| Adam D. I. Kramer** Cameron Marlow**

June 18, 2014

Background, Theory and Operationalization

A social network site is a type of website with user profiles, semi-persistent public commentary about the content of those profiles, and a social network displayed in relation to that profile. Social network sites are dynamic entities that are meant to be evolving representations of one's self and one's real life social network. The use of social network sites has exploded in recent years and a diverse group of people and communities are now connecting through these sites in order to complement or enhance their offline political engagement. The social network site Facebook was created in 2004 and was initially limited to college and university students. It has become extremely well integrated into the college experience, and it is estimated that about 90% of all college students have a profile on Facebook or another social networking site. Once Facebook opened up access to any user with an email address, the growth of the site increased

*Assistant Professor, College of William & Mary, Department of Government, Morton Hall, Room 10, 100 Ukrop Way, Williamsburg, VA 23187, jsettle@wm.edu, 757-221-2279 (p), 757-221-1868 (f). Corresponding author.

†The Ohio State University

‡University of California, San Diego, Jacobs School of Engineering, Department of Electrical and Computer Engineering, La Jolla, CA, 92093, lcoviell@ucsd.edu

§Pennsylvania State University, Department of Political Science, cjf20@psu.edu; cjf0006@gmail.com

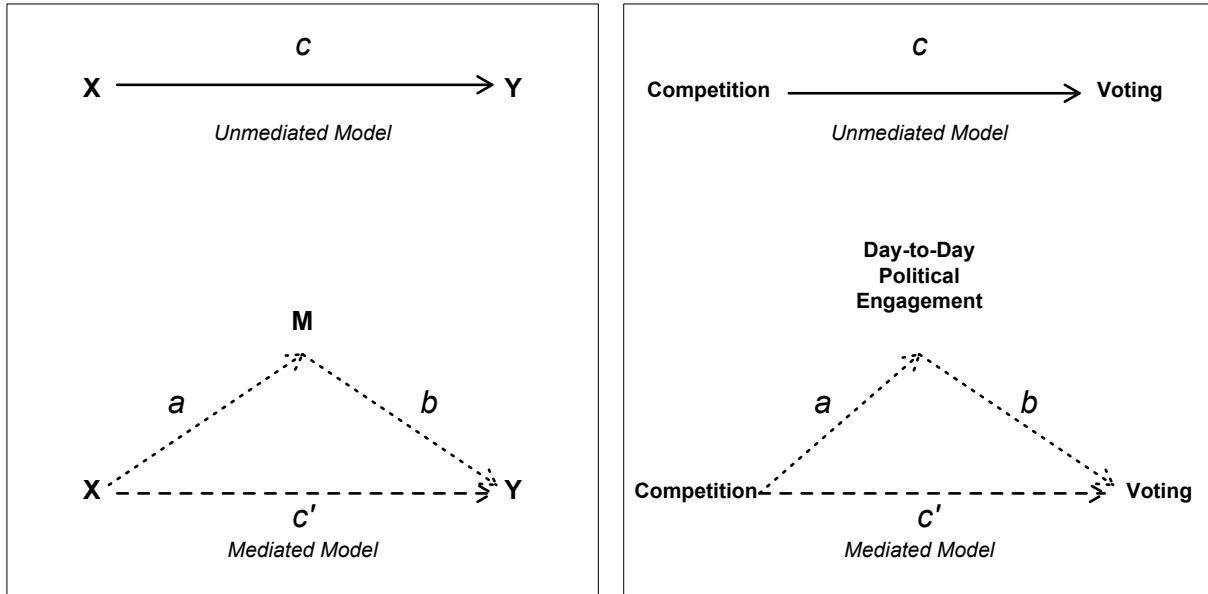
¶University of California, San Diego, Department of Political Science, Social Sciences Building 301, 9500 Gilman Drive #0521, La Jolla, CA, 92093-0521, (858) 534-6807 (p), (858) 534-7130 (f); jhfowler@ucsd.edu, jasonj@ucsd.edu

||Stony Brook University

**Facebook, Inc., 1601 Willow Road, Menlo Park, CA, akramer@fb.com, cameron@fb.com

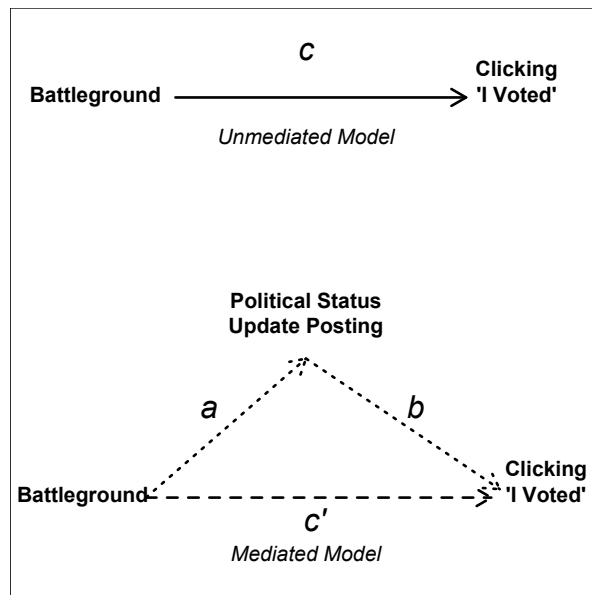
exponentially to nearly 900 million in June 2012 (100 million in the United States alone). The increase in social networking use has been most pronounced in the last three years among users over the age of 35, and over half of all adult social network users are now over the age of 35 (Hampton et al., 2011)

Figure 1(c) shows the operationalization of the mediation model.



(a) Baron and Kenny (1986) Model

(b) Conceptual Framework



(c) Operationalized Framework

Figure 1: The full mediated model explaining the role for status update posting as a mediator between exposure to competition and voting

Characteristics of the States Selected for Study

State	ECV	VEP	Total Regis.	VEP Regis.	VEP Change over 2006	Voter Reg. deadline for general	VEP TO 2004	VEP TO 2008
Battleground States								
Florida	27	12,542,585	11,247,634	90.5	9.2	10/6/08	64.42	66.90
Indiana	11	4,636,209	4,513,615	97.4	5.1	10/6/08	54.79	59.30
Missouri	11	4,352,278	4,205,774	97.9	0.3	10/8/08	65.33	67.20
Ohio	20	8,557,033	8,291,239	97.1	4.0	10/6/08	66.78	66.60
Virginia	13	5,518,704	5,034,660	91.5	11.4	10/6/08	60.61	67.50
Blackout States								
California	55	22,153,555	17,304,091	78.7	4.5	10/20/08	58.78	61.20
Kentucky	8	3,156,184	2,906,809	92.1	4.0	10/6/08	58.73	57.90
Louisiana	9	3,206,903	2,945,618	93.3	0.8	10/6/08	61.05	61.10
Massachusetts	12	4,672,376	4,220,488	90.7	3.0	10/15/08	64.24	65.90
Oregon	7	2,709,299	2,153,914	79.9	0.6	10/14/08	72.01	67.50

Table 1: Key characteristics about voter registration and turnout in the states selected for study.

Area	Dem. Primary Caucus	Rep. Primary Caucus	Primary Turnout	Dem. Primary Turnout	Rep. Primary Turnout	Dem. Primary Clinton	Dem. Primary Obama	Rep. Primary McCain	Rep. Primary Romney	Rep. Primary Huckabee
Battleground States										
Florida	1/29/08	1/29/08	34.0	42.30	50.96	49.77	32.93	36.00	31.03	13.47
Indiana	5/6/08	5/6/08	37.3			50.56	49.44	77.62	4.74	9.98
Missouri	2/5/08	2/5/08	33			47.90	49.32	32.95	29.27	31.53
Ohio	3/4/08	3/4/08	42.4			53.49	44.84	59.92	3.32	30.59
Virginia	2/12/08	2/12/08	26.9			35.47	63.66	50.04	3.68	40.67
Blackout States										
California	2/5/08	2/5/08	40.0	75.07	56.08	51.47	43.16	42.25	34.56	11.62
Kentucky	5/20/08	5/20/08	29.2	43.06	19.01	65.48	29.92	72.26	4.65	8.29
Louisiana	2/9/08	1/22/08	17.7	25.68	22.86	35.63	57.40	41.91	6.34	43.18
Massachusetts	2/5/08	2/5/08	38.2			56.01	40.64	40.91	51.12	3.82
Oregon	5/20/08	5/20/08	43.2	74.42	52.79	40.50	58.52	80.88	0.00	0.00

Table 2: Information about the 2008 primary and caucus results in states selected for study.

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Area	Obama Campaign Visit Count	McCain Campaign Visit Count	Donations	Obama Percent 2008	Percent Registered Democrat 2004	Percent Registered Democrat 2008 (January 2008)
Battleground States						
Florida	15	13	\$53,243,671	51.42	41.37	40.55
Indiana	13	5	\$5,771,678	50.52		
Missouri	16	14	\$9,812,759	49.93		
Ohio	23	27	\$15,898,380	52.33		
Virginia	22	9	\$31,806,663	53.18		
Blackout States						
California	8	6	\$153,202,456	62.28	43.00	42.95
Kentucky	0	3	\$4,598,892	41.77	57.81	57.04
Louisiana	0	0	\$5,467,781	40.54	55.36	52.70
Massachusetts	2	1	\$36,711,708	63.20	37.25	
Oregon	0	0	\$7,827,913	58.41	38.72	42.90

Table 3: Information about the 2008 general election in states selected for study.

Characteristics of the Unmatched and Matched Samples

	Blackout	Battleground	p-value	t
Age	29.436	29.021	0.000	27.276
Male	0.455	0.454	0.406	0.831
College Degree	0.500	0.506	0.000	-8.098
Friends	150.383	160.809	0.000	-36.096
Photo Friends	74.449	80.742	0.000	-20.689
Status Update Count	26.303	28.278	0.000	-21.787

Table 4: Difference of means (t-tests) for key characteristics between users in battleground versus blackout states in the unmatched sample.

	Age	College	Photo Friends	Friends	Status Count	Male	Prop. Making At Least 1 SU
CA	30.575	0.444	57.971	115.049	23.370	0.488	0.568
FL	30.945	0.474	64.994	130.495	24.949	0.443	0.571
IN	28.300	0.516	87.384	173.073	31.603	0.453	0.631
KY	28.438	0.533	80.324	174.671	34.579	0.443	0.623
LA	28.420	0.518	86.008	186.696	27.668	0.429	0.589
MA	29.006	0.501	96.418	177.824	23.285	0.467	0.611
MO	28.678	0.506	88.749	163.299	31.470	0.443	0.624
OH	28.242	0.526	82.277	169.127	26.710	0.454	0.602
OR	30.741	0.504	51.522	97.676	22.612	0.446	0.558
VA	28.938	0.509	80.307	168.053	26.659	0.477	0.612

Table 5: Means of key covariates in the states selected for study. "Friends" is the number of other users to whom a user has indicated a friendship on the site. "Photo Friends" indicates the number of other users with whom a user has been tagged in a photo. "Status Count" is the number of status updates a user made between January 1, 2008 and August, 24, 2008. The last column reports the proportion of users in each states who post at least one status update between January 1, 2008 and August, 24, 2008.

	Battleground	Blackout	Difference
Age	28.431	28.431	0.000
Male	0.453	0.453	0.000
College	0.516	0.516	0.000
Photo Friends	82.812	83.903	-1.091
Photo Friends (Vigintile)	3.193	3.173	0.020
Friends	164.171	163.821	0.350
Friends (Vigintile)	5.607	5.607	0.000
SU Count	28.780	28.858	-0.078
SU Count (Vigintile)	3.180	3.180	0.000
Prop Posting At Least One SU	0.619	0.600	0.019
N	952,923	949,124	
	Battleground	Blackout	Difference
Age	26.760	26.787	-0.028
Male	0.439	0.439	0.000
College	0.540	0.540	0.000
Photo Friends	103.110	104.470	-1.360
Friends	196.027	195.624	0.403
SU Count	80.997	80.352	0.645
SU Count (Preseason)	37.722	37.859	-0.138
SU Count (Campaign)	18.746	18.222	0.524
Prop Posting At Least One SU	0.812	0.799	0.013
N	726,590	713,190	

Table 6: Table showing the weighted means of covariates in the matched sample. The top panel shows the weighted means of the complete matched sample, including those users who did not post any status updates. The lower panel shows the weighted means of users who post at least one status update between January 1, 2008 and January 31, 2009. "SU" signifies "status update;" the reported proportion in the last row of each table shows the proportion of users in the sample who posted at least one status update before the campaign season began.

Denominator	Count	Political Status Posters
All Users	1,902,055	10.44% (10.42, 10.47) (198,660)
All Active Users	1,439,787	13.80% (13.77, 13.83) (198,660)
All Campaign Active Users	1,102,554	18.02% (17.98, 18.06) (198,660)
Political Campaign Active Users	198,660	100% (198,660)

Table 7: A summary of the prevalence of mediator variable (political speech). All results presented in this paper look at user behavior as a proportion of all users in the sample (row 1). However, the prevalence of status update posting and clicking "I Voted" is higher when looking only at users who posted a status update in the study period (row 2), users who posted a status update in the campaign season (row 3), and users who posted a political status update in the campaign season (row 4)

Denominator	Count	Vote Clickers
All Users	1,902,055	17.28% (17.26, 17.31) (328,745)
Logged in Users	938,667	35.02% (34.97, 35.08) (328,745)

Table 8: A summary of the prevalence of the dependent variable (clicking the "I Voted" button). All results presented in this paper look at user behavior as a proportion of all users in the sample (row 1). However, the prevalence of clicking "I Voted" is higher when looking only at users who logged in on Election Day (row 2).

REFERENCES

References

Baron, R.M. and D.A. Kenny. 1986. "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations." *Journal of Personality and Social Psychology* 51(6):1173–82.

Hampton, Keith N., Lauren Sessions, Goulet Lee Rainie and Kristen Purcell. 2011. Social Networking Sites and our Lives: How People's Trust, Personal Relationships, and Civic and Political Involvement are Connected to their Use of Social Networking Sites and Other Technologies. Technical report Pew Research Center Internet and American Life Project.

URL: <http://pewinternet.org/Reports/2011/Technology-and-social-networks.aspx>