SARA: Sensitivity Analysis

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1 Aim 1: Sensitivity Analysis with Complete Case Data

In this sensitivity analysis, we exclude the last study day for all participants.

Table 1 : Complete Case Analysis: Main Analysis

	exp	beta	se.beta	test.stat	p.val
beta	1.053	0.052	0.041	1.254	0.107
Intercept	0.289	-1.241	0.150	-8.278	0.000
appusage_yes	1.885	0.634	0.173	3.670	0.001
isCompleted_yesterday_yes	1.522	0.420	0.111	3.768	0.000
contact_yes	0.840	-0.174	0.038	-4.539	0.000

Table 2 : Complete Case Analysis: appusage_yes=1 vs. appusage_yes=0

	exp	beta	se.beta	test.stat	p.val
beta1	1.342	0.294	0.156	1.885	0.064
beta2	0.763	-0.270	0.159	-1.701	0.094
contrast: appusage_yes=0	1.342	0.294	0.156	1.885	0.064
contrast: appusage_yes=1	1.024	0.024	0.041	0.579	0.565
Intercept	0.264	-1.333	0.180	-7.407	0.000
appusage_yes	2.200	0.788	0.210	3.746	0.000
isCompleted_yesterday_yes	1.443	0.367	0.102	3.595	0.001
contact_yes	0.832	-0.184	0.039	-4.660	0.000

Table 3 : Complete Case Analysis: contact_yes=1 vs. contact_yes=0

	exp	beta	se.beta	test.stat	p.val
beta1	1.016	0.016	0.046	0.354	0.724
beta2	1.096	0.092	0.073	1.257	0.214
contrast: contact_yes=0	1.016	0.016	0.046	0.354	0.724
contrast: contact_yes=1	1.114	0.108	0.067	1.616	0.111
Intercept	0.308	-1.178	0.151	-7.781	0.000
appusage_yes	1.841	0.610	0.169	3.611	0.001
isCompleted_yesterday_yes	1.488	0.397	0.108	3.663	0.001
contact_yes	0.795	-0.230	0.058	-3.980	0.000

Table 4 : Complete Case Analysis: isCompleted_yesterday_yes=1 vs. isCompleted_yesterday_yes=0

	exp	beta	se.beta	test.stat	p.val
beta1	1.167	0.154	0.114	1.354	0.181
beta2	0.878	-0.130	0.109	-1.194	0.237
contrast: isCompleted_yesterday_yes=0	1.167	0.154	0.114	1.354	0.181
contrast: isCompleted_yesterday_yes=1	1.025	0.024	0.035	0.691	0.492
Intercept	0.293	-1.229	0.148	-8.277	0.000
appusage_yes	1.740	0.554	0.174	3.189	0.002
isCompleted_yesterday_yes	1.646	0.499	0.150	3.314	0.002
contact_yes	0.839	-0.176	0.039	-4.527	0.000

Table 5 : Complete Case Analysis: female=1 vs. female=0

	exp	beta	se.beta	test.stat	p.val
beta1	1.061	0.059	0.074	0.795	0.430
beta2	0.988	-0.012	0.094	-0.127	0.900
contrast: male	1.061	0.059	0.074	0.795	0.430
contrast: female	1.048	0.047	0.054	0.871	0.387
Intercept	0.300	-1.204	0.149	-8.066	0.000
appusage_yes	1.829	0.604	0.168	3.590	0.001
isCompleted_yesterday_yes	1.513	0.414	0.108	3.817	0.000
contact_yes	0.832	-0.185	0.040	-4.661	0.000

Table 6 : Complete Case Analysis: study_day

	exp	beta	se.beta	test.stat	p.val
beta1	1.024	0.024	0.064	0.366	0.715
beta2	1.002	0.002	0.004	0.555	0.581
Intercept	0.300	-1.204	0.149	-8.103	0.000
appusage_yes	1.826	0.602	0.168	3.583	0.001
isCompleted_yesterday_yes	1.515	0.415	0.109	3.802	0.000
contact_yes	0.832	-0.184	0.040	-4.625	0.000

Table 7 : Complete Case Analysis: weekend=1 vs. weekend=0

	exp	beta	se.beta	test.stat	p.val
beta1	1.011	0.011	0.045	0.233	0.817
beta2	1.161	0.150	0.080	1.878	0.065
contrast: weekday	1.011	0.011	0.045	0.233	0.817
contrast: weekend	1.174	0.160	0.076	2.097	0.040
Intercept	0.298	-1.210	0.150	-8.083	0.000
appusage_yes	1.830	0.604	0.168	3.596	0.001
isCompleted_yesterday_yes	1.520	0.419	0.108	3.864	0.000
contact_yes	0.836	-0.179	0.040	-4.509	0.000

Table 8 : Complete Case Analysis: Four Moderators in One Model

	exp	beta_contrast	se.beta_contrast	test.stat.beta_contrast	p.val
beta1	1.285	0.250	0.185	1.354	0.181
beta2	1.160	0.149	0.078	1.898	0.063
beta3	1.074	0.071	0.074	0.962	0.340
beta4	0.803	-0.219	0.157	-1.395	0.168
beta5	0.913	-0.091	0.103	-0.876	0.384
(1,1,1,0,0)	1.601	0.471	0.194	2.429	0.018
(1,1,0,0,0)	1.491	0.399	0.198	2.017	0.048
(1,0,1,0,0)	1.380	0.322	0.180	1.792	0.078
(1,1,1,0,1)	1.462	0.380	0.162	2.345	0.022
(1,1,0,0,1)	1.362	0.309	0.166	1.858	0.068
(1,0,1,0,1)	1.260	0.231	0.150	1.537	0.130
(1,1,1,1,0)	1.286	0.251	0.140	1.792	0.078
(1,1,0,1,0)	1.197	0.180	0.132	1.364	0.178
(1,0,1,1,0)	1.108	0.103	0.121	0.851	0.398
(1,1,1,1,1)	1.174	0.161	0.089	1.806	0.076
(1,1,0,1,1)	1.093	0.089	0.073	1.219	0.228
(1,0,1,1,1)	1.012	0.012	0.067	0.180	0.858
(1,0,0,0,0)	1.285	0.250	0.185	1.354	0.181
(1,0,0,0,1)	1.173	0.160	0.156	1.026	0.309
(1,0,0,1,0)	1.032	0.031	0.112	0.278	0.782
(1,0,0,1,1)	0.942	-0.059	0.047	-1.258	0.213

2 Aim 2: Sensitivity Analysis #1 with Complete Case Data

In this analysis, we do not exclude all of a participant's observations if they were impacted by the bug affecting the delivery of memes for at least one day. Instead, we use only those participant days unaffected by the bug impacting the delivery of memes, and in addition, we exclude the last study day for all participants.

Table 1 : Complete Case Analysis: Main Analysis

	exp	beta	se.beta	test.stat	p.val
beta	0.964	-0.037	0.035	-1.056	0.852
Intercept	0.598	-0.514	0.121	-4.229	0.000
appusage_yes	1.133	0.125	0.095	1.314	0.194
isCompleted_yesterday_yes	1.277	0.245	0.065	3.770	0.000
contact_yes	0.923	-0.080	0.042	-1.935	0.057

Table 2 : Complete Case Analysis: appusage_yes=1 vs. appusage_yes=0

	exp	beta	se.beta	test.stat	p.val
beta1	0.924	-0.079	0.141	-0.561	0.577
beta2	1.047	0.046	0.147	0.316	0.753
contrast: appusage_yes=0	0.924	-0.079	0.141	-0.561	0.577
contrast: appusage_yes=1	0.968	-0.033	0.036	-0.913	0.365
Intercept	0.610	-0.495	0.150	-3.287	0.002
appusage_yes	1.107	0.101	0.139	0.727	0.470
isCompleted_yesterday_yes	1.281	0.248	0.066	3.733	0.000
contact_yes	0.923	-0.080	0.042	-1.917	0.060

Table 3 : Complete Case Analysis: contact_yes=1 vs. contact_yes=0

	exp	beta	se.beta	test.stat	p.val
beta1	0.970	-0.031	0.045	-0.688	0.494
beta2	0.985	-0.016	0.075	-0.208	0.836
contrast: contact_yes=0	0.970	-0.031	0.045	-0.688	0.494
contrast: contact_yes=1	0.955	-0.046	0.058	-0.797	0.428
Intercept	0.596	-0.517	0.121	-4.280	0.000
appusage_yes	1.133	0.125	0.095	1.314	0.194
isCompleted_yesterday_yes	1.278	0.246	0.065	3.800	0.000
contact_yes	0.930	-0.073	0.049	-1.493	0.140

Table 4 : Complete Case Analysis: isCompleted_yesterday_yes=1 vs. isCompleted_yesterday_yes=0

	exp	beta	se.beta	test.stat	p.val
beta1	0.737	-0.305	0.120	-2.536	0.014
beta2	1.374	0.318	0.122	2.602	0.012
contrast: isCompleted_yesterday_yes=0	0.737	-0.305	0.120	-2.536	0.014
contrast: isCompleted_yesterday_yes=1	1.013	0.013	0.033	0.382	0.704
Intercept	0.653	-0.426	0.134	-3.187	0.002
appusage_yes	1.173	0.159	0.108	1.480	0.144
isCompleted_yesterday_yes	1.108	0.103	0.077	1.340	0.185
contact_yes	0.918	-0.086	0.042	-2.023	0.047

Table 5 : Complete Case Analysis: female=1 vs. female=0

	exp	beta	se.beta	test.stat	p.val
beta1	1.035	0.034	0.055	0.620	0.538
beta2	0.886	-0.121	0.075	-1.611	0.112
contrast: male	1.035	0.034	0.055	0.620	0.538
contrast: female	0.917	-0.087	0.048	-1.796	0.077
Intercept	0.593	-0.522	0.115	-4.527	0.000
appusage_yes	1.136	0.128	0.087	1.466	0.148
isCompleted_yesterday_yes	1.288	0.253	0.066	3.817	0.000
contact_yes	0.919	-0.085	0.041	-2.058	0.044

Table 6 : Complete Case Analysis: study_day

	exp	beta	se.beta	test.stat	p.val
beta1	0.955	-0.046	0.070	-0.657	0.514
beta2	1.001	0.001	0.005	0.156	0.876
Intercept	0.598	-0.514	0.122	-4.230	0.000
appusage_yes	1.132	0.124	0.095	1.309	0.195
isCompleted_yesterday_yes	1.278	0.246	0.067	3.664	0.001
contact_yes	0.923	-0.080	0.042	-1.900	0.062

Table 7 : Complete Case Analysis: weekend=1 vs. weekend=0

	exp	beta	se.beta	test.stat	p.val
beta1	0.958	-0.042	0.045	-0.942	0.350
beta2	1.022	0.022	0.082	0.267	0.790
contrast: weekday	0.958	-0.042	0.045	-0.942	0.350
contrast: weekend	0.980	-0.020	0.062	-0.330	0.743
Intercept	0.598	-0.514	0.122	-4.202	0.000
appusage_yes	1.132	0.124	0.095	1.303	0.197
isCompleted_yesterday_yes	1.279	0.246	0.066	3.701	0.000
contact_yes	0.923	-0.080	0.042	-1.926	0.059

Table 8 : Complete Case Analysis: Four Moderators in One Model

	exp	beta_contrast	se.beta_contrast	test.stat.beta_contrast	p.val
beta1	0.670	-0.400	0.222	-1.802	0.077
beta2	1.046	0.045	0.090	0.499	0.619
beta3	1.012	0.012	0.076	0.160	0.873
beta4	1.079	0.076	0.154	0.490	0.626
beta5	1.389	0.329	0.132	2.500	0.015
(1,1,1,0,0)	0.710	-0.343	0.217	-1.580	0.119
(1,1,0,0,0)	0.701	-0.355	0.210	-1.690	0.096
(1,0,1,0,0)	0.678	-0.388	0.229	-1.698	0.095
(1,1,1,0,1)	0.986	-0.014	0.175	-0.081	0.936
(1,1,0,0,1)	0.974	-0.026	0.161	-0.163	0.871
(1,0,1,0,1)	0.943	-0.059	0.156	-0.379	0.706
(1,1,1,1,0)	0.765	-0.267	0.113	-2.375	0.021
(1,1,0,1,0)	0.756	-0.280	0.114	-2.448	0.017
(1,0,1,1,0)	0.732	-0.312	0.143	-2.186	0.033
(1,1,1,1,1)	1.063	0.062	0.088	0.702	0.485
(1,1,0,1,1)	1.051	0.049	0.080	0.618	0.539
(1,0,1,1,1)	1.017	0.016	0.065	0.255	0.800
(1,0,0,0,0)	0.670	-0.400	0.222	-1.802	0.077
(1,0,0,0,1)	0.931	-0.071	0.141	-0.506	0.615
(1,0,0,1,0)	0.723	-0.325	0.144	-2.249	0.028
(1,0,0,1,1)	1.004	0.004	0.054	0.079	0.938

3 Aim 2: Sensitivity Analysis #2 with Complete Case Data

In this analysis, we use only those 50 participants unaffected by the bug impacting the delivery of memes, and in addition, we exclude the last two study days for all 50 participants.

Table 1 : Complete Case Analysis: Main Analysis

	exp	beta	se.beta	test.stat	p.val
beta	0.964	-0.037	0.035	-1.056	0.852
Intercept	0.598	-0.514	0.121	-4.229	0.000
appusage_yes	1.133	0.125	0.095	1.314	0.194
isCompleted_yesterday_yes	1.277	0.245	0.065	3.770	0.000
contact_yes	0.923	-0.080	0.042	-1.935	0.057

Table 2 : Complete Case Analysis: appusage_yes=1 vs. appusage_yes=0

	exp	beta	se.beta	test.stat	p.val
beta1	0.946	-0.056	0.143	-0.389	0.699
beta2	1.028	0.028	0.149	0.186	0.853
contrast: appusage_yes=0	0.946	-0.056	0.143	-0.389	0.699
contrast: appusage_yes=1	0.972	-0.028	0.039	-0.722	0.473
Intercept	0.608	-0.498	0.150	-3.320	0.002
appusage_yes	1.101	0.097	0.136	0.710	0.480
isCompleted_yesterday_yes	1.278	0.245	0.075	3.251	0.002
contact_yes	0.917	-0.087	0.046	-1.884	0.064

Table 3 : Complete Case Analysis: contact_yes=1 vs. contact_yes=0

	exp	beta	se.beta	test.stat	p.val
beta1	0.982	-0.019	0.049	-0.381	0.704
beta2	0.967	-0.033	0.084	-0.394	0.695
contrast: contact_yes=0	0.982	-0.019	0.049	-0.381	0.704
contrast: contact_yes=1	0.950	-0.052	0.065	-0.797	0.429
Intercept	0.596	-0.517	0.122	-4.219	0.000
appusage_yes	1.118	0.111	0.092	1.213	0.230
isCompleted_yesterday_yes	1.277	0.245	0.074	3.319	0.002
contact_yes	0.931	-0.071	0.057	-1.247	0.217

Table 4 : Complete Case Analysis: isCompleted_yesterday_yes=1 vs. isCompleted_yesterday_yes=0

	exp	beta	se.beta	test.stat	p.val
beta1	0.757	-0.278	0.128	-2.180	0.033
beta2	1.341	0.294	0.130	2.254	0.028
contrast: isCompleted_yesterday_yes=0	0.757	-0.278	0.128	-2.180	0.033
contrast: isCompleted_yesterday_yes=1	1.015	0.015	0.037	0.410	0.683
Intercept	0.654	-0.425	0.133	-3.203	0.002
appusage_yes	1.151	0.140	0.103	1.366	0.177
isCompleted_yesterday_yes	1.117	0.111	0.088	1.268	0.210
contact_yes	0.913	-0.091	0.046	-1.963	0.054

Table 5 : Complete Case Analysis: female=1 vs. female=0

	exp	beta	se.beta	test.stat	p.val
beta1	1.035	0.034	0.059	0.579	0.565
beta2	0.892	-0.114	0.081	-1.413	0.163
contrast: male	1.035	0.034	0.059	0.579	0.565
contrast: female	0.923	-0.080	0.052	-1.536	0.130
Intercept	0.596	-0.517	0.116	-4.438	0.000
appusage_yes	1.120	0.113	0.084	1.350	0.182
isCompleted_yesterday_yes	1.286	0.251	0.075	3.332	0.001
contact_yes	0.914	-0.090	0.045	-1.979	0.052

Table 6 : Complete Case Analysis: study_day

	exp	beta	se.beta	test.stat	p.val
beta1	0.958	-0.043	0.076	-0.569	0.572
beta2	1.001	0.001	0.005	0.187	0.852
Intercept	0.600	-0.511	0.124	-4.132	0.000
appusage_yes	1.117	0.111	0.090	1.229	0.224
isCompleted_yesterday_yes	1.278	0.245	0.079	3.119	0.003
contact_yes	0.918	-0.086	0.048	-1.784	0.079

Table 7 : Complete Case Analysis: weekend=1 vs. weekend=0

	exp	beta	se.beta	test.stat	p.val
beta1	0.977	-0.023	0.051	-0.452	0.653
beta2	0.972	-0.028	0.090	-0.316	0.753
contrast: weekday	0.977	-0.023	0.051	-0.452	0.653
contrast: weekend	0.950	-0.051	0.064	-0.806	0.423
Intercept	0.602	-0.508	0.123	-4.140	0.000
appusage_yes	1.118	0.112	0.090	1.240	0.220
isCompleted_yesterday_yes	1.273	0.242	0.076	3.172	0.002
contact_yes	0.916	-0.088	0.046	-1.931	0.058

Table 8 : Complete Case Analysis: Four Moderators in One Model

	exp	beta_contrast	se.beta_contrast	test.stat.beta_contrast	p.val
beta1	0.722	-0.326	0.235	-1.386	0.173
beta2	0.991	-0.009	0.099	-0.091	0.928
beta3	0.992	-0.008	0.086	-0.098	0.923
beta4	1.059	0.057	0.159	0.360	0.721
beta5	1.344	0.295	0.141	2.090	0.043
(1,1,1,0,0)	0.709	-0.344	0.227	-1.516	0.137
(1,1,0,0,0)	0.715	-0.335	0.220	-1.523	0.135
(1,0,1,0,0)	0.716	-0.335	0.237	-1.411	0.166
(1,1,1,0,1)	0.953	-0.048	0.186	-0.260	0.796
(1,1,0,0,1)	0.961	-0.040	0.169	-0.236	0.814
(1,0,1,0,1)	0.961	-0.039	0.159	-0.247	0.806
(1,1,1,1,0)	0.751	-0.287	0.119	-2.418	0.020
(1,1,0,1,0)	0.757	-0.278	0.118	-2.366	0.023
(1,0,1,1,0)	0.758	-0.278	0.153	-1.813	0.077
(1,1,1,1,1)	1.009	0.009	0.099	0.088	0.930
(1,1,0,1,1)	1.017	0.017	0.081	0.211	0.834
(1,0,1,1,1)	1.018	0.018	0.072	0.248	0.805
(1,0,0,0,0)	0.722	-0.326	0.235	-1.386	0.173
(1,0,0,0,1)	0.970	-0.031	0.146	-0.211	0.834
(1,0,0,1,0)	0.764	-0.269	0.159	-1.693	0.098
(1,0,0,1,1)	1.027	0.026	0.063	0.416	0.680