The Social Dynamics of Stigma:

Supplemental Appendices

Myong – Hun Chang† and Joseph E. Harrington, Jr.‡

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This Appendix consists of three parts:

Appendix A: Correlation between the Rate of Acceptance and the Rate of Disclosure
Appendix B: Parameterizations for Robustness Check
Appendix C: Source Code for the Benchmark Simulation

†Department of Economics, Cleveland State University, Cleveland, OH 44115; m.chang@csuohio.edu

‡Patrick T. Harker Professor, Department of Business Economics & Public Policy, The Wharton School, University of Pennsylvania, PA 19104; harrij@wharton.upenn.edu

Appendix A: Correlation between the Rates of Acceptance and Disclosure

In this appendix, we show that there is a high positive correlation between the rate of acceptance and the rate of disclosure. First, for the baseline parameterization with $w = 0.3$ and $q = 0$, we plot the steady-state rates of acceptance and disclosure, (RA_k^{300}, RD_k^{300}), for all 64 replications:

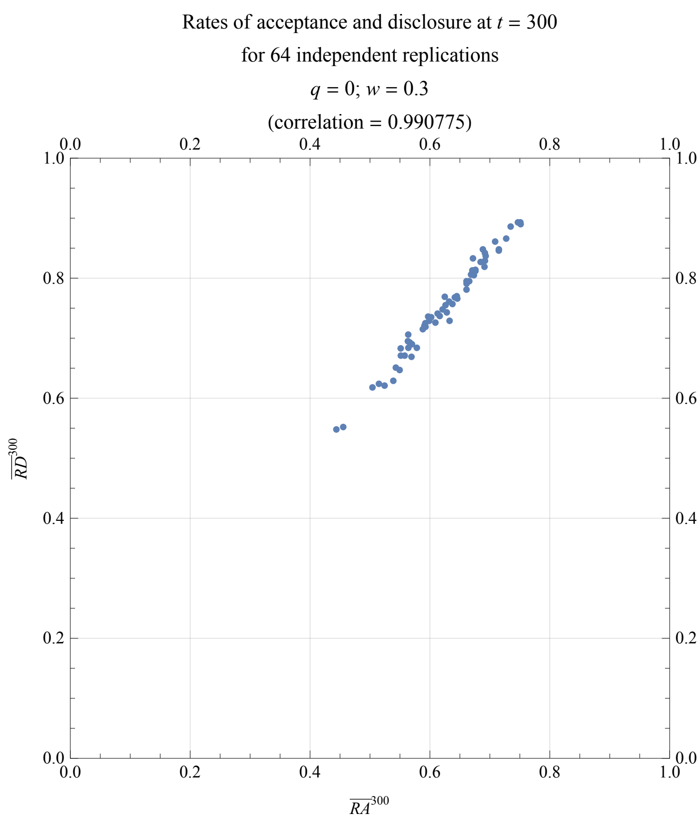


Figure A-1

As shown, the two rates are almost perfectly correlated at 0.990775.

Next, we show that the rate of acceptance and the rate of disclosure are also correlated with respect to w. Denote by $RA_k^{300}(w; q)$ and $RD_k^{300}(w; q)$ the steady-state rates of acceptance and disclosure in replication k for a given value of w, when the degree of insularity in the social networks is q. Given q (and the corresponding networks), each replication in our computational experiment generates a series of rates, $\left\{RA_k^{300}(w;\ q)\right\}_w$ and $\left\{RD_k^{300}(w;\ q)\right\}_w$ for all $w \in$ {0, ..., 1). The correlation between the two series can then be computed for each replication k:

$$\rho_k(q) \equiv \text{Correlation}\left[\left\{RA_k^{300}(w;\ q)\right\}_w,\ \left\{RD_k^{300}(w;\ q)\right\}_w\right], \text{ where } k \in \{1, ..., 64\}.$$

Table A-1 below reports, for all values of q considered in this paper, the mean correlation, $\overline{\rho}(q) \equiv \frac{1}{64}\sum_{k=1}^{64} \rho_k(q)$, and the standard deviation from the distribution of $\rho_k(q)$s for all k.

q	$\overline{\rho}(q)$	standard deviation
0	0.996851	0.000935053
0.05	0.995097	0.00140532
0.1	0.993754	0.00165626
0.15	0.993178	0.00127005
0.2	0.945942	0.0594611
0.3	0.801564	0.0668385
0.4	0.760148	0.0773367
0.5	0.727995	0.0937841
0.6	0.669439	0.115353
0.7	0.629031	0.125878
0.8	0.655556	0.118946
0.9	0.666294	0.207633
1	0.617278	0.185241

Table A-1

Appendix B: Parameterizations for Robustness Check

To show the robustness of our findings, we report the mean rates of acceptance for all $w \in \{0, ..., 1\}$ and $q \in \{0, ..., 1\}$ for the following sixteen parameterizations:

Case	p^r	p^a	τ^S	τ^{CNF}	τ^{CMP}	(w^*, q^*)	RA^*
1	0.15	0	0.4	0.3	0.05	(0.7, 0.05)	0.93145
2	0.15	0	0.5	0.3	0.05	(0.7, 0)	0.93135
3	0.15	0.025	0.4	0.3	0.05	(0.7, 0)	0.91740
4	0.15	0.025	0.5	0.3	0.05	(0.7, 0)	0.91736
5	0.25	0	0.4	0.3	0.05	(0.8, 0.05)	0.95415
6	0.25	0	0.4	0.4	0.05	(0.5, 0.05)	0.88216
7	0.25	0	0.5	0.3	0.05	(0.8, 0.05)	0.95415
8	0.25	0.025	0.4	0.3	0.05	(0.8, 0.05)	0.95481
9	0.25	0.025	0.4	0.4	0.05	(0.5, 0.05)	0.88185
10	0.25	0.025	0.5	0.3	0.05	(0.8, 0.05)	0.95481
11	0.25	0.05	0.5	0.3	0.05	(0.8, 0)	0.95402
12	0.25	0.1	0.5	0.3	0.05	(0.8, 0)	0.95481
13	0.25	0.025	0.4	0.35	0.05	(0.7, 0)	0.93136
14	0.25	0.025	0.5	0.35	0.05	(0.7, 0)	0.93136
15	0.25	0.025	0.4	0.3	0.075	(0.7, 0)	0.86744
16	0.25	0.025	0.5	0.3	0.075	(0.7, 0)	0.86735

Table B-1

For the five main parameters, we consider at least two values per parameter: $p^r \in \{0.15, 0.25\}$; $p^a \in \{0, 0.025, 0.05, 0.1\}$; $\tau^S \in \{0.4, 0.5\}$; $\tau^{CNF} \in \{0.3, 0.35, 0.4\}$; $\tau^{CMP} \in \{0.05, 0.075\}$.

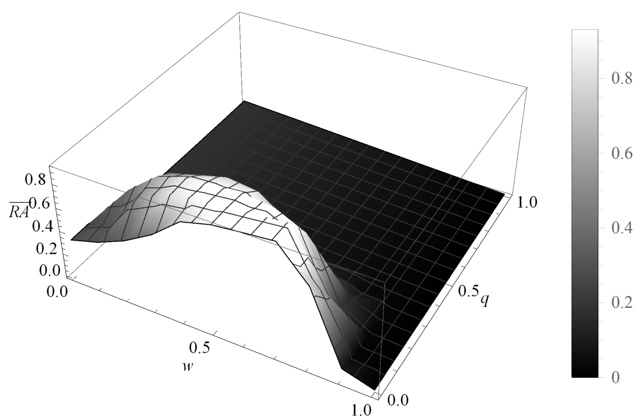
The second from the last column indicates the pair of values for w and q, (w^*, q^*), that maximizes the mean rate of acceptance. The last column reports the corresponding rate of acceptance, RA^*.

More detailed information is provided next for each of the sixteen parameterizations. Specifically, for each case we present a numerical table reporting the mean rate of acceptance for all values of w and q at the top. Below each table, we provide three figures that visualize the results in the table: a) 3-D surface plot; b) the contour plot; and c) the multiple line plot for each value of q.

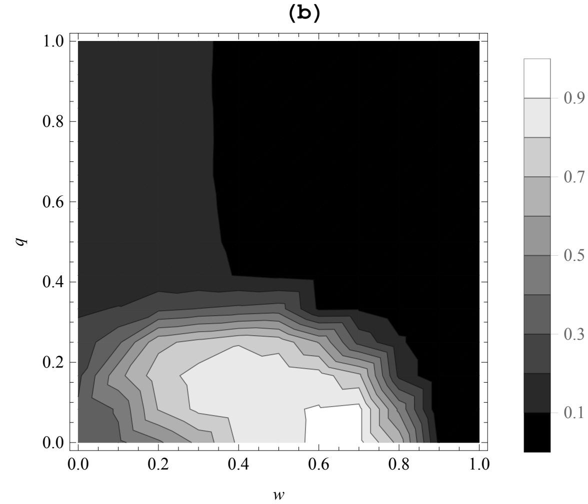
CASE 1: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.15, 0, 0.4, 0.3, 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.30993	0.37918	0.48253	0.62433	0.81912	0.88319	0.90898	0.93137	0.66539	0.07524	1.73610×10^{-6}
	0.05	0.31343	0.41303	0.70667	0.82515	0.86200	0.88566	0.90798	0.93145	0.47800	0.01548	1.73610×10^{-6}
	0.1	0.27656	0.56853	0.75622	0.83788	0.85109	0.87300	0.84292	0.72506	0.17523	0.01495	5.20830×10^{-6}
	0.15	0.23877	0.37847	0.67107	0.73480	0.79448	0.76322	0.59444	0.26872	0.11754	0.01530	6.94440×10^{-6}
	0.2	0.18593	0.20497	0.27300	0.30200	0.32265	0.34363	0.08303	0.08973	0.03104	0.01500	0.00000
	0.3	0.15676	0.14661	0.13254	0.11534	0.09702	0.07939	0.06255	0.04538	0.02991	0.01512	0.00000
	0.4	0.15284	0.13920	0.12550	0.10931	0.09306	0.07624	0.06101	0.04543	0.03001	0.01513	1.73610×10^{-6}
	0.5	0.15074	0.13792	0.12294	0.10753	0.09147	0.07584	0.05988	0.04449	0.02952	0.01507	3.47220×10^{-6}
	0.6	0.14928	0.13582	0.12175	0.10551	0.09041	0.07571	0.06007	0.04495	0.02944	0.01430	1.73610×10^{-6}
	0.7	0.14921	0.13705	0.12121	0.10587	0.09045	0.07537	0.05962	0.04437	0.02981	0.01489	3.47220×10^{-6}
	0.8	0.14849	0.13626	0.12076	0.10562	0.09031	0.07485	0.05957	0.04468	0.02957	0.01458	3.47220×10^{-6}
	0.9	0.14859	0.13460	0.12088	0.10551	0.08907	0.07498	0.05892	0.04410	0.02964	0.01463	6.94440×10^{-6}
	1.	0.14919	0.13515	0.12076	0.10576	0.09005	0.07518	0.05941	0.04410	0.02937	0.01455	1.73610×10^{-6}

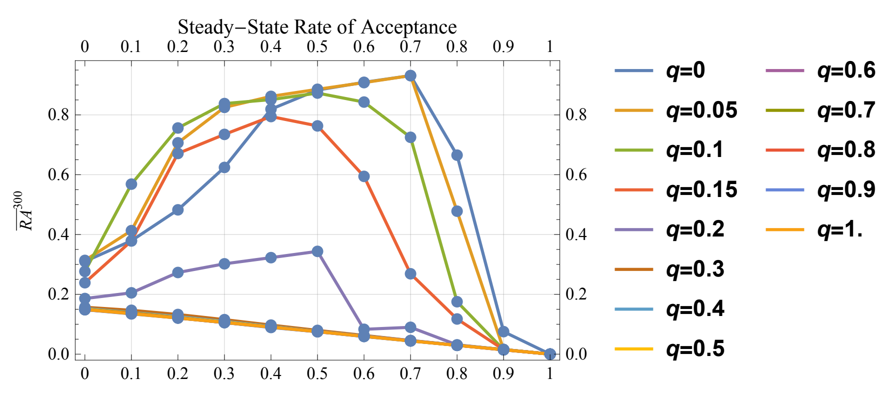
(a)



(b)

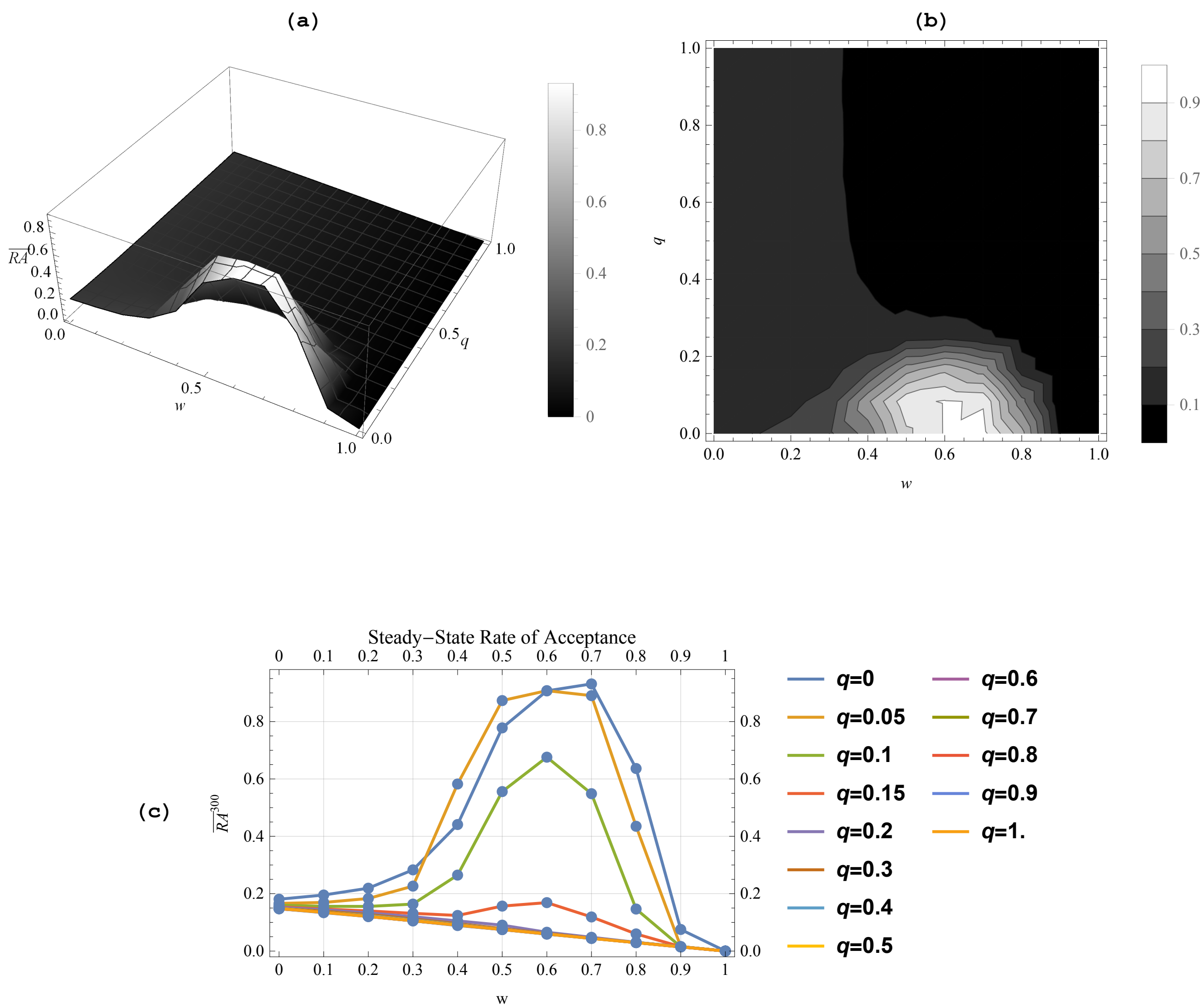


(c)



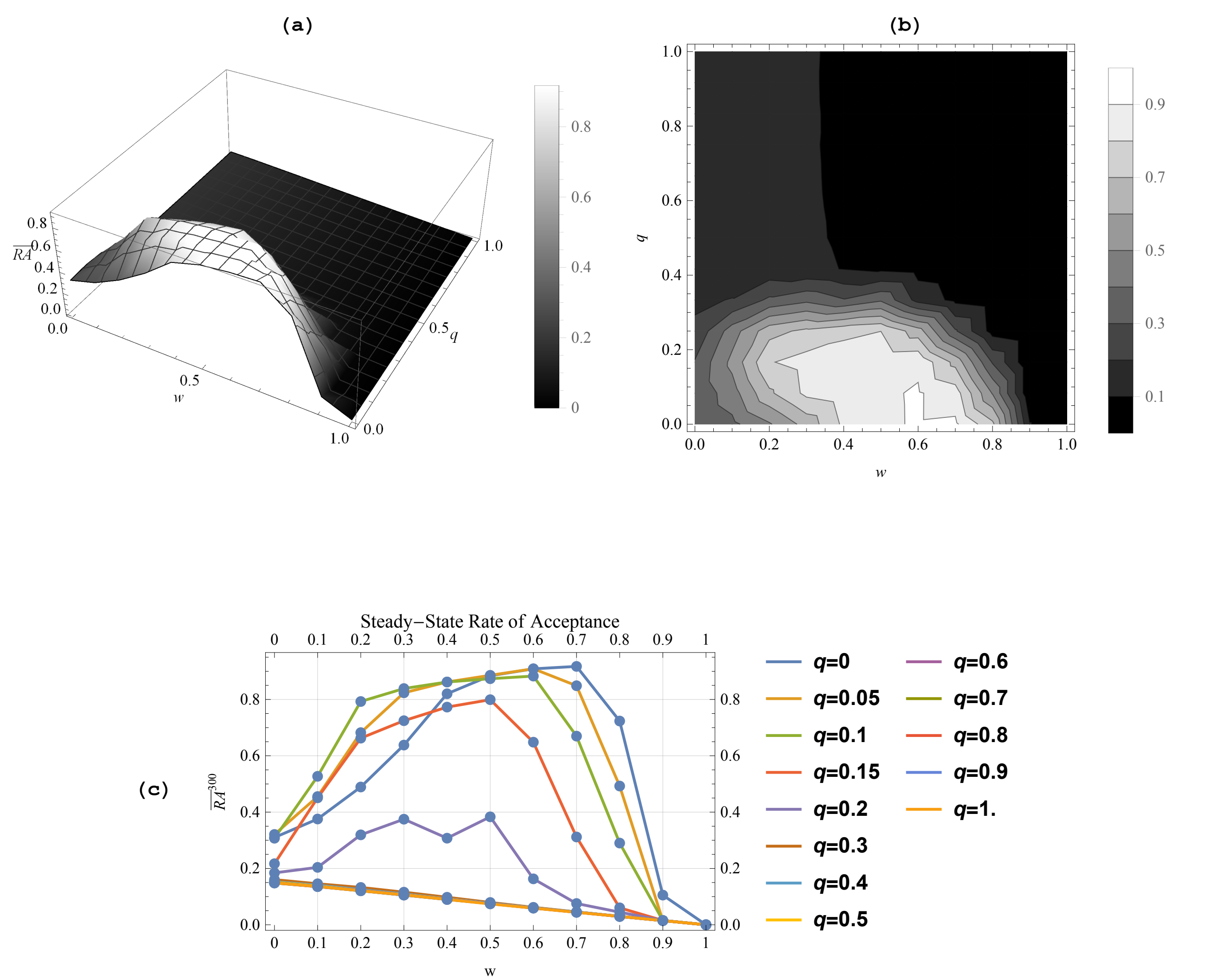
CASE 2: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.15, 0, 0.5, 0.3, 0.05)$

q \ w	0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
0	0.18070	0.19535	0.21914	0.28309	0.44111	0.77811	0.90705	0.93135	0.63643	0.07524	1.73610×10^{-6}
0.05	0.16622	0.16939	0.18318	0.22640	0.58245	0.87328	0.90785	0.89051	0.43500	0.01548	1.73610×10^{-6}
0.1	0.15971	0.15600	0.15556	0.16372	0.26480	0.55597	0.67593	0.54863	0.14647	0.01495	5.20830×10^{-6}
0.15	0.15405	0.14676	0.13979	0.13147	0.12413	0.15674	0.16883	0.11891	0.05977	0.01530	6.94440×10^{-6}
0.2	0.15195	0.14405	0.13311	0.11983	0.10509	0.09028	0.06555	0.04799	0.03048	0.01500	0.00000
0.3	0.14880	0.13902	0.12731	0.11177	0.09551	0.07839	0.06214	0.04535	0.02990	0.01512	0.00000
0.4	0.14919	0.13653	0.12385	0.10848	0.09272	0.07612	0.06099	0.04543	0.03001	0.01513	1.73610×10^{-6}
0.5	0.14870	0.13656	0.12221	0.10718	0.09127	0.07582	0.05987	0.04449	0.02952	0.01507	3.47220×10^{-6}
0.6	0.14784	0.13500	0.12136	0.10535	0.09032	0.07568	0.06007	0.04495	0.02944	0.01430	1.73610×10^{-6}
0.7	0.14801	0.13633	0.12082	0.10569	0.09038	0.07534	0.05962	0.04437	0.02981	0.01489	3.47220×10^{-6}
0.8	0.14734	0.13559	0.12042	0.10549	0.09023	0.07482	0.05957	0.04468	0.02957	0.01458	3.47220×10^{-6}
0.9	0.14749	0.13387	0.12051	0.10544	0.08899	0.07497	0.05891	0.04410	0.02964	0.01463	6.94440×10^{-6}
1.	0.14805	0.13453	0.12059	0.10566	0.09001	0.07516	0.05941	0.04410	0.02937	0.01455	1.73610×10^{-6}



CASE 3: $(p^r,\ p^a,\ \tau^S,\ \tau^{CNF},\ \tau^{CMP}) = (0.15,\ 0.025,\ 0.4,\ 0.3,\ 0.05)$

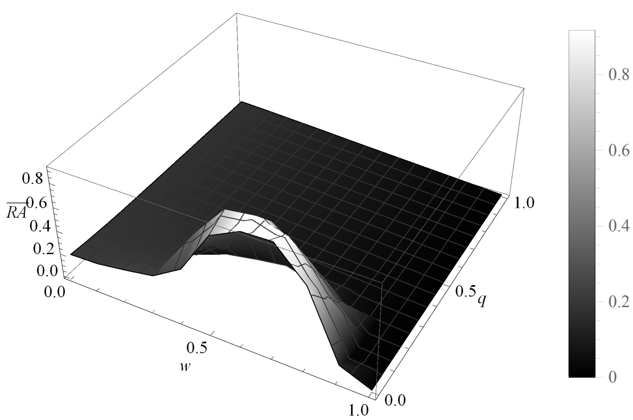
		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.30993	0.37555	0.48920	0.63804	0.82020	0.88420	0.90876	0.91740	0.72343	0.10536	0.00000
	0.05	0.32072	0.45526	0.68224	0.82367	0.86198	0.88576	0.90906	0.84879	0.49259	0.01490	1.73610×10^{-6}
	0.1	0.30730	0.52709	0.79276	0.83880	0.86203	0.87372	0.88301	0.66978	0.29011	0.01528	5.20830×10^{-6}
	0.15	0.21684	0.45077	0.66262	0.72461	0.77288	0.79923	0.64835	0.31167	0.06019	0.01513	3.47220×10^{-6}
	0.2	0.18429	0.20386	0.31932	0.37489	0.30746	0.38330	0.16306	0.07549	0.04478	0.01504	5.20830×10^{-6}
	0.3	0.16025	0.14560	0.13256	0.11574	0.09766	0.07917	0.06192	0.04553	0.02959	0.01501	1.73610×10^{-6}
	0.4	0.15263	0.14034	0.12478	0.10934	0.09262	0.07665	0.06076	0.04517	0.03013	0.01504	6.94440×10^{-6}
	0.5	0.15110	0.13774	0.12249	0.10727	0.09173	0.07586	0.06065	0.04500	0.03010	0.01494	5.20830×10^{-6}
	0.6	0.14897	0.13612	0.12204	0.10656	0.09031	0.07524	0.06018	0.04472	0.03007	0.01482	3.47220×10^{-6}
	0.7	0.14927	0.13579	0.12057	0.10572	0.08994	0.07541	0.05952	0.04515	0.02953	0.01481	5.20830×10^{-6}
	0.8	0.14859	0.13531	0.12109	0.10562	0.09094	0.07508	0.05913	0.04438	0.02939	0.01468	3.47220×10^{-6}
	0.9	0.14824	0.13607	0.12098	0.10531	0.08989	0.07570	0.05982	0.04498	0.02987	0.01493	5.20830×10^{-6}
	1.	0.14855	0.13605	0.12090	0.10593	0.08987	0.07406	0.05921	0.04415	0.02987	0.01477	3.47220×10^{-6}



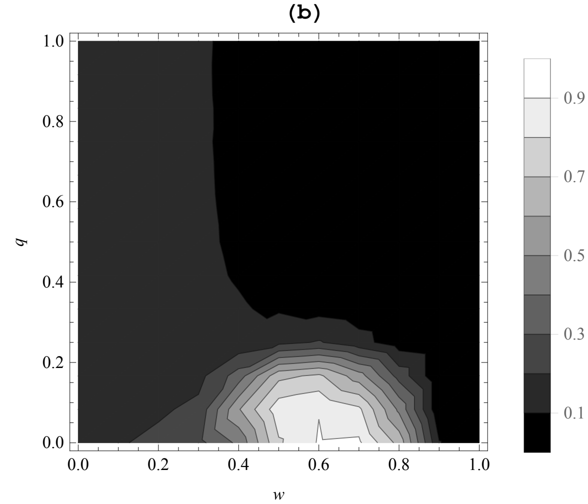
CASE 4: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.15, 0.025, 0.5, 0.3, 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.18070	0.18994	0.22706	0.27078	0.42254	0.78720	0.90816	0.91736	0.66574	0.10536	0.00000
	0.05	0.16731	0.17080	0.18326	0.22593	0.59054	0.86293	0.89652	0.82144	0.47811	0.01490	1.73610×10^{-6}
	0.1	0.15931	0.15381	0.15289	0.16802	0.34830	0.67158	0.72017	0.54653	0.26136	0.01528	5.20830×10^{-6}
	0.15	0.15366	0.14783	0.14011	0.13157	0.12433	0.17101	0.20819	0.13417	0.04559	0.01513	3.47220×10^{-6}
	0.2	0.15169	0.14371	0.13298	0.12055	0.10548	0.08984	0.06752	0.04702	0.03044	0.01504	5.20830×10^{-6}
	0.3	0.15053	0.13887	0.12657	0.11221	0.09558	0.07849	0.06174	0.04552	0.02959	0.01501	1.73610×10^{-6}
	0.4	0.14914	0.13792	0.12353	0.10861	0.09234	0.07656	0.06072	0.04517	0.03013	0.01504	6.94440×10^{-6}
	0.5	0.14919	0.13651	0.12178	0.10700	0.09160	0.07581	0.06064	0.04500	0.03010	0.01494	5.20830×10^{-6}
	0.6	0.14728	0.13527	0.12152	0.10636	0.09028	0.07523	0.06018	0.04472	0.03007	0.01482	3.47220×10^{-6}
	0.7	0.14794	0.13512	0.12035	0.10554	0.08986	0.07539	0.05952	0.04514	0.02953	0.01481	5.20830×10^{-6}
	0.8	0.14749	0.13477	0.12079	0.10544	0.09091	0.07506	0.05912	0.04438	0.02939	0.01468	3.47220×10^{-6}
	0.9	0.14717	0.13542	0.12061	0.10516	0.08986	0.07568	0.05981	0.04498	0.02987	0.01493	5.20830×10^{-6}
	1.	0.14765	0.13553	0.12051	0.10573	0.08980	0.07404	0.05920	0.04414	0.02987	0.01477	3.47220×10^{-6}

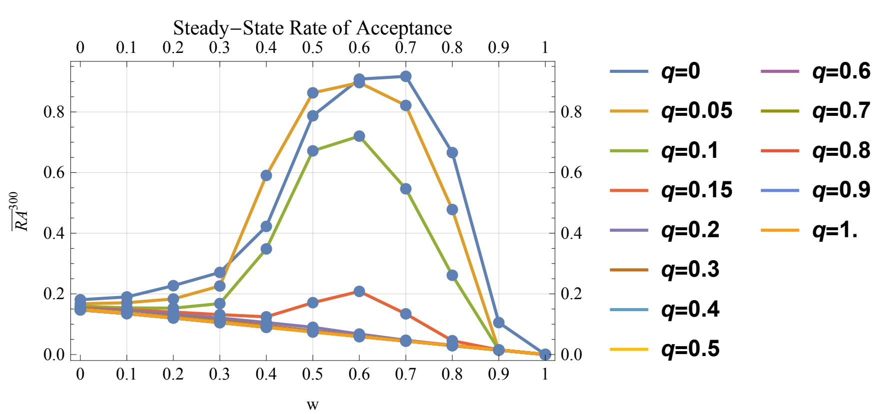
(a)



(b)



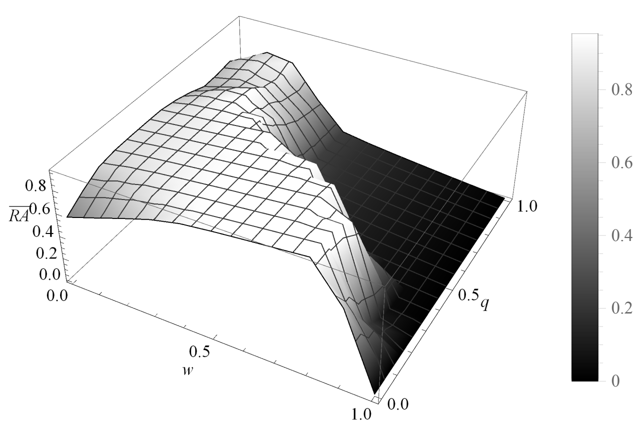
(c)



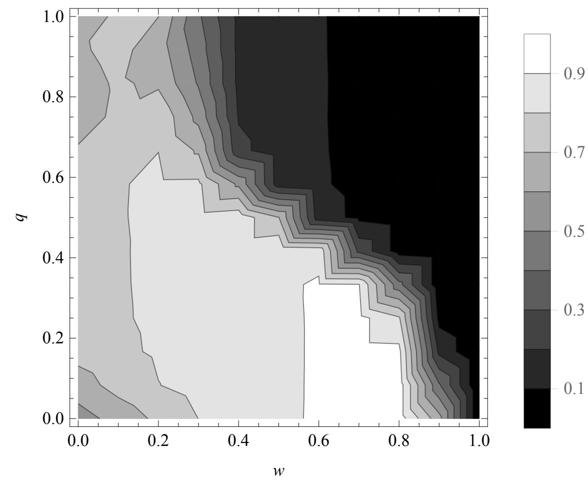
CASE 5: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.25, 0, 0.4, 0.3, 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.55652	0.63791	0.72210	0.80082	0.85603	0.88513	0.90926	0.93126	0.95401	0.63530	0.00001
	0.05	0.65434	0.73661	0.79789	0.83645	0.86226	0.88506	0.90872	0.93156	0.95415	0.41226	8.68060×10^{-6}
	0.1	0.73478	0.78061	0.81250	0.83916	0.86344	0.88511	0.90839	0.93103	0.92614	0.17424	0.00002
	0.15	0.75971	0.79050	0.81576	0.84003	0.86214	0.88548	0.90832	0.93132	0.81348	0.07029	0.00002
	0.2	0.76630	0.79225	0.81655	0.83961	0.86266	0.88479	0.90937	0.90499	0.43331	0.02560	0.00002
	0.3	0.76947	0.79268	0.81719	0.84002	0.86264	0.88605	0.87216	0.27410	0.05186	0.02541	0.00003
	0.4	0.77013	0.79458	0.81664	0.83923	0.86295	0.70339	0.13991	0.07921	0.05138	0.02517	0.00004
	0.5	0.74729	0.79340	0.81702	0.81895	0.57901	0.14734	0.11007	0.07787	0.05035	0.02481	0.00003
	0.6	0.70946	0.79366	0.79893	0.68621	0.22744	0.14136	0.10745	0.07780	0.05089	0.02462	0.00005
	0.7	0.65712	0.72056	0.78012	0.56996	0.19182	0.13915	0.10644	0.07705	0.05071	0.02482	0.00002
	0.8	0.66446	0.71130	0.68255	0.48996	0.17541	0.13734	0.10678	0.07781	0.05110	0.02498	0.00003
	0.9	0.68650	0.72894	0.64777	0.45235	0.17609	0.13775	0.10601	0.07745	0.05056	0.02487	0.00004
	1.	0.60324	0.73487	0.70082	0.41578	0.17702	0.13713	0.10568	0.07747	0.05001	0.02464	0.00005

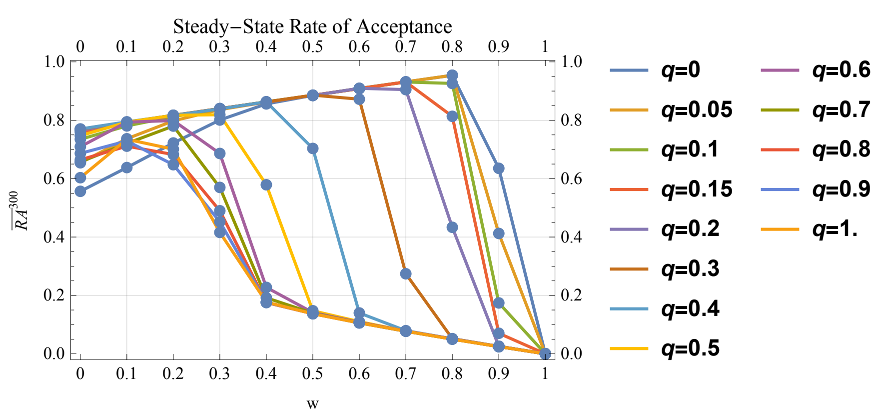
(a)



(b)



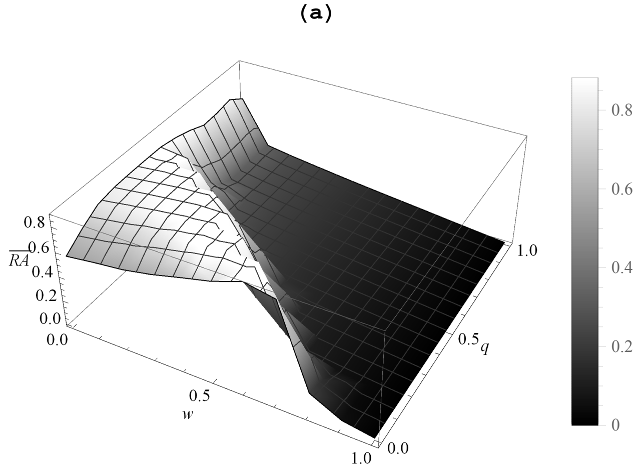
(c)



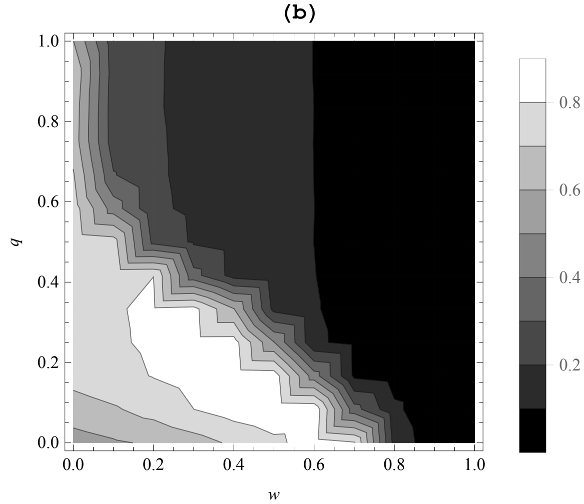
CASE 6: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.25, 0, 0.4, 0.4, 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
	0	0.55652	0.58771	0.61316	0.65793	0.71724	0.77287	0.85513	0.81050	0.16381	0.04019	0.00000
	0.05	0.65434	0.68840	0.73915	0.79951	0.84593	0.88216	0.87333	0.34060	0.12154	0.02528	0.00000
	0.1	0.73478	0.77017	0.80415	0.83530	0.86316	0.85459	0.44650	0.08116	0.05070	0.02499	0.00000
	0.15	0.75971	0.78836	0.81445	0.83975	0.84130	0.50463	0.11307	0.07610	0.05029	0.02516	0.00000
	0.2	0.76630	0.79178	0.81624	0.82979	0.60376	0.16886	0.10488	0.07550	0.05026	0.02510	0.00000
	0.3	0.76947	0.79257	0.79927	0.33415	0.16173	0.12939	0.10137	0.07543	0.04976	0.02507	0.00000
q	0.4	0.77013	0.74435	0.26886	0.18836	0.15603	0.12665	0.09975	0.07428	0.04989	0.02489	1.73610×10^{-6}
	0.5	0.74729	0.45320	0.21700	0.18251	0.15257	0.12569	0.10017	0.07437	0.04918	0.02454	1.73610×10^{-6}
	0.6	0.70946	0.30761	0.21227	0.17956	0.15244	0.12485	0.09977	0.07463	0.04978	0.02437	1.73610×10^{-6}
	0.7	0.65712	0.24717	0.21048	0.17937	0.15183	0.12487	0.09941	0.07411	0.04964	0.02454	3.47220×10^{-6}
	0.8	0.66446	0.24450	0.20744	0.17852	0.14996	0.12394	0.09990	0.07486	0.04999	0.02471	1.73610×10^{-6}
	0.9	0.68650	0.25266	0.20780	0.17861	0.15070	0.12427	0.09920	0.07443	0.04955	0.02463	3.47220×10^{-6}
	1.	0.60324	0.24393	0.20882	0.17900	0.15059	0.12390	0.09924	0.07462	0.04905	0.02440	0.00000

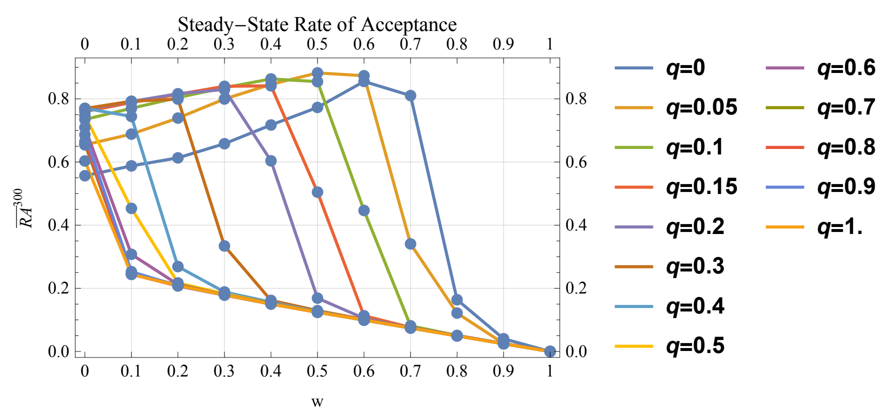
(a)



(b)



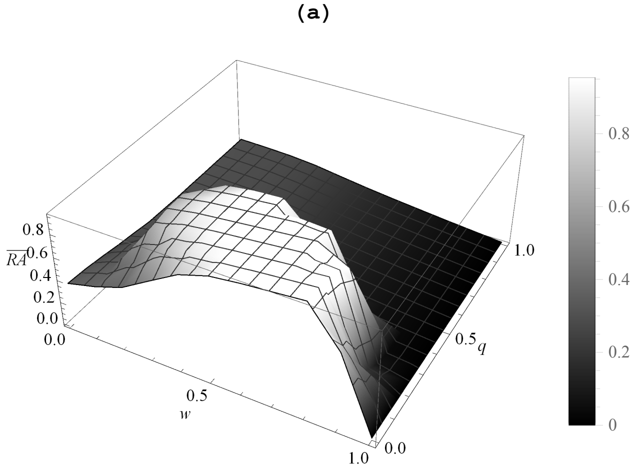
(c)



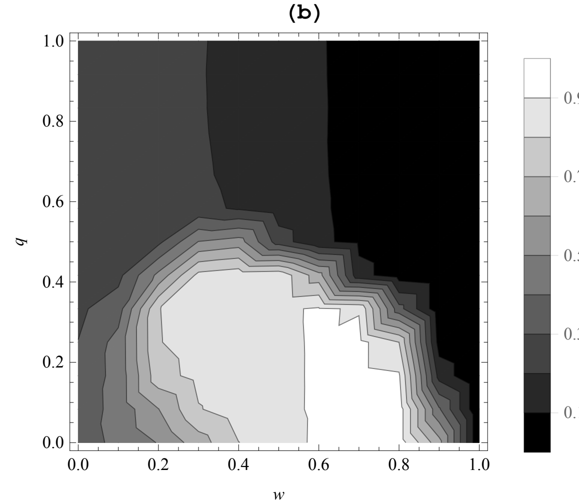
CASE 7: (p^r, p^a, τ^S, τ^{CNF}, τ^{CMP}) = (0.25, 0, 0.5, 0.3, 0.05)

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.35852	0.42126	0.50527	0.65361	0.79837	0.87773	0.90914	0.93124	0.95401	0.63530	0.00001
	0.05	0.34707	0.43203	0.59749	0.79299	0.85578	0.88467	0.90863	0.93155	0.95415	0.41226	8.68060×10^{-6}
	0.1	0.32668	0.43399	0.76197	0.83098	0.86242	0.88486	0.90838	0.93102	0.91214	0.15937	0.00002
	0.15	0.30148	0.43641	0.79571	0.83706	0.86140	0.88534	0.90828	0.93130	0.79965	0.05550	0.00002
	0.2	0.28245	0.35230	0.79768	0.83808	0.86210	0.88472	0.90937	0.89180	0.33567	0.02560	0.00002
	0.3	0.25989	0.27184	0.52622	0.83024	0.86245	0.87513	0.64182	0.12890	0.05183	0.02541	0.00003
	0.4	0.25545	0.25512	0.27515	0.50385	0.54591	0.24961	0.11344	0.07912	0.05136	0.02517	0.00004
	0.5	0.25012	0.24926	0.24267	0.22692	0.18793	0.14439	0.10962	0.07780	0.05034	0.02481	0.00003
	0.6	0.25086	0.24686	0.23707	0.21389	0.17822	0.13954	0.10720	0.07776	0.05088	0.02461	0.00005
	0.7	0.24961	0.24265	0.23419	0.21004	0.17511	0.13817	0.10628	0.07703	0.05070	0.02482	0.00002
	0.8	0.25028	0.24225	0.23158	0.20786	0.17103	0.13638	0.10665	0.07779	0.05110	0.02498	0.00003
	0.9	0.24914	0.24309	0.23035	0.20688	0.17127	0.13684	0.10583	0.07743	0.05056	0.02487	0.00004
	1.	0.24997	0.24259	0.23081	0.20847	0.17168	0.13628	0.10547	0.07744	0.05001	0.02464	0.00005

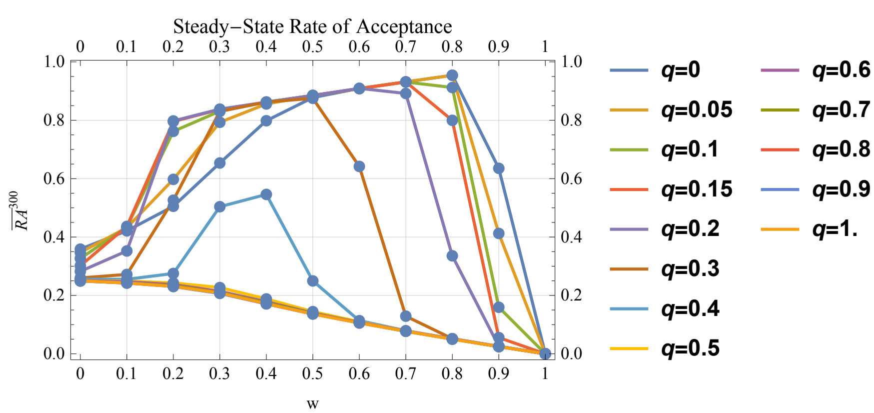
(a)



(b)



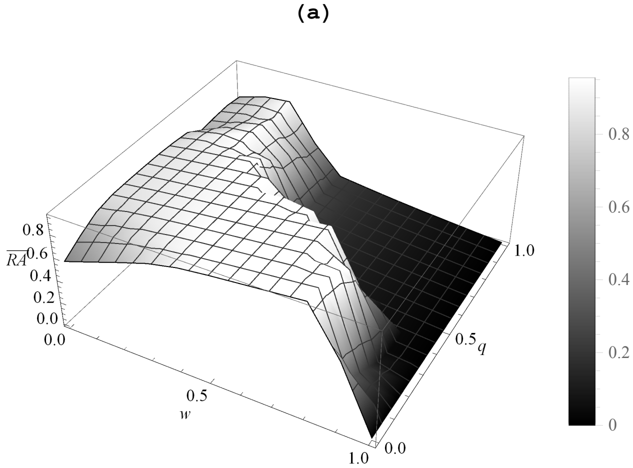
(c)



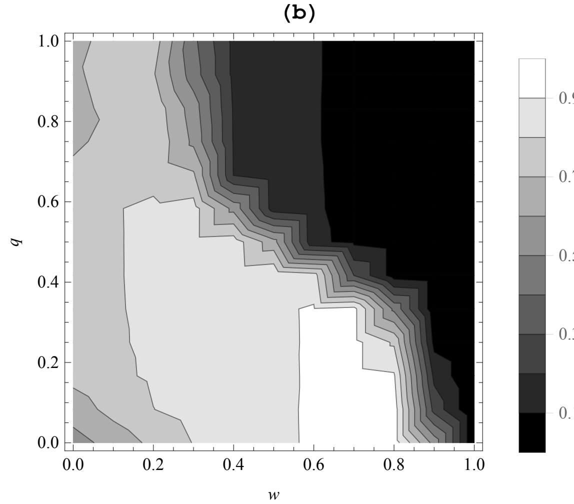
CASE 8: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.25, 0.025, 0.4, 0.3, 0.05)$

	w										
q	0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
0	0.55652	0.63946	0.72370	0.80371	0.85660	0.88532	0.90850	0.93136	0.95434	0.56099	0.00002
0.05	0.65004	0.73233	0.79887	0.83637	0.86231	0.88564	0.90900	0.93185	0.95481	0.26363	0.00002
0.1	0.72811	0.78072	0.81328	0.83909	0.86365	0.88570	0.90786	0.93163	0.91239	0.17434	0.00003
0.15	0.75956	0.78935	0.81549	0.83959	0.86236	0.88490	0.90830	0.93173	0.78507	0.07009	0.00003
0.2	0.76588	0.79279	0.81610	0.83991	0.86346	0.88570	0.90859	0.93109	0.47603	0.02525	0.00002
0.3	0.76916	0.79380	0.81713	0.84042	0.86274	0.88570	0.84668	0.29969	0.05198	0.02522	0.00002
0.4	0.76989	0.79397	0.81697	0.83927	0.85289	0.63815	0.11568	0.08006	0.05128	0.02515	0.00002
0.5	0.76273	0.79437	0.81680	0.84003	0.56909	0.14822	0.10854	0.07790	0.05109	0.02509	0.00001
0.6	0.74844	0.79387	0.77090	0.71478	0.19507	0.14206	0.10724	0.07755	0.05045	0.02494	0.00002
0.7	0.66365	0.76087	0.78133	0.57864	0.19197	0.13989	0.10511	0.07730	0.05067	0.02497	0.00003
0.8	0.67934	0.71929	0.76431	0.55145	0.18944	0.13990	0.10517	0.07715	0.05027	0.02498	0.00003
0.9	0.68884	0.72859	0.71039	0.44858	0.17570	0.13838	0.10613	0.07704	0.05062	0.02491	0.00001
1.	0.67126	0.73641	0.75468	0.42420	0.17524	0.13957	0.10619	0.07664	0.05050	0.02482	0.00003

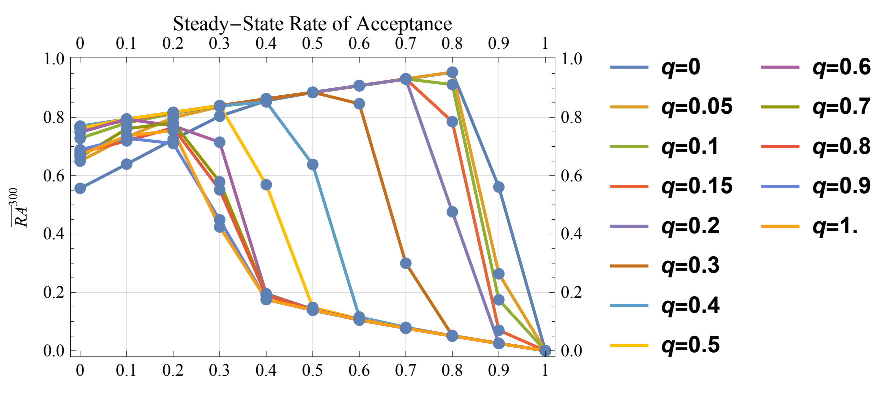
(a)



(b)



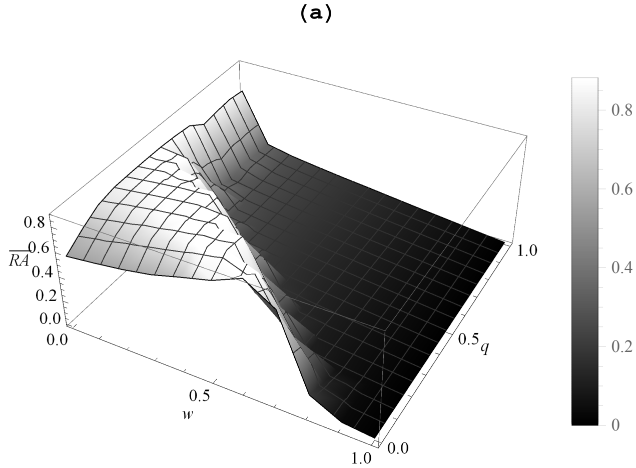
(c)



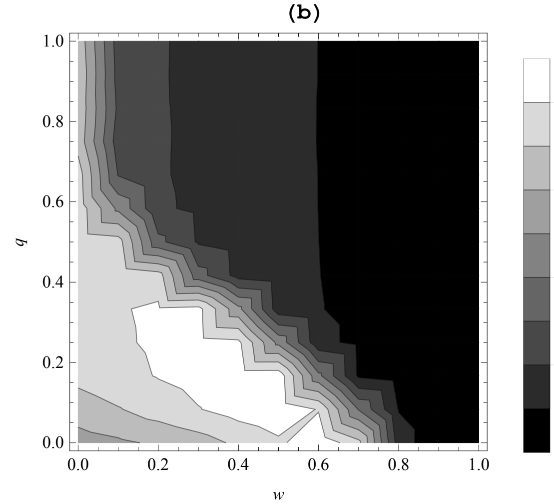
CASE 9: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.25, 0.025, 0.4, 0.4, 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.55652	0.58324	0.61417	0.65577	0.71975	0.77938	0.87918	0.73124	0.14966	0.02538	1.73610×10^{-6}
	0.05	0.65004	0.69342	0.74762	0.79555	0.84328	0.88185	0.79254	0.39389	0.09478	0.02518	0.00000
	0.1	0.72811	0.76904	0.80521	0.83492	0.86333	0.86429	0.42725	0.08406	0.05065	0.02487	0.00000
	0.15	0.75956	0.78741	0.81458	0.83909	0.82220	0.46998	0.12774	0.07570	0.04970	0.02487	0.00000
	0.2	0.76588	0.79222	0.81586	0.83040	0.52845	0.14462	0.10414	0.07511	0.05021	0.02476	1.73610×10^{-6}
	0.3	0.76916	0.79368	0.74549	0.34070	0.16297	0.12913	0.10129	0.07552	0.04970	0.02486	1.73610×10^{-6}
	0.4	0.76989	0.74407	0.32620	0.18932	0.15418	0.12641	0.10025	0.07495	0.04977	0.02481	3.47220×10^{-6}
	0.5	0.76273	0.47772	0.21555	0.18185	0.15250	0.12552	0.09963	0.07428	0.04990	0.02487	1.73610×10^{-6}
	0.6	0.74844	0.29536	0.20934	0.17988	0.15151	0.12544	0.09953	0.07432	0.04943	0.02469	1.73610×10^{-6}
	0.7	0.66365	0.24695	0.20997	0.17953	0.15230	0.12525	0.09843	0.07423	0.04957	0.02471	1.73610×10^{-6}
	0.8	0.67934	0.27932	0.20862	0.18020	0.15154	0.12568	0.09854	0.07426	0.04933	0.02473	1.73610×10^{-6}
	0.9	0.68884	0.26362	0.20818	0.17774	0.15038	0.12488	0.09939	0.07413	0.04957	0.02468	0.00000
	1.	0.67126	0.25362	0.20856	0.17821	0.15021	0.12574	0.09951	0.07375	0.04951	0.02457	1.73610×10^{-6}

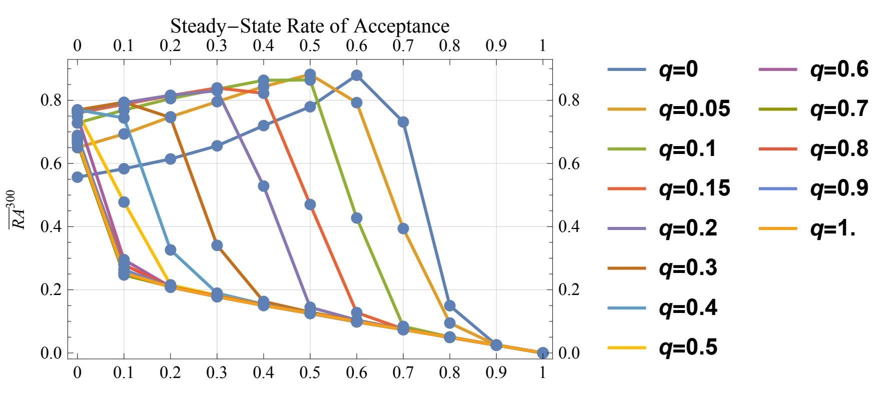
(a)



(b)



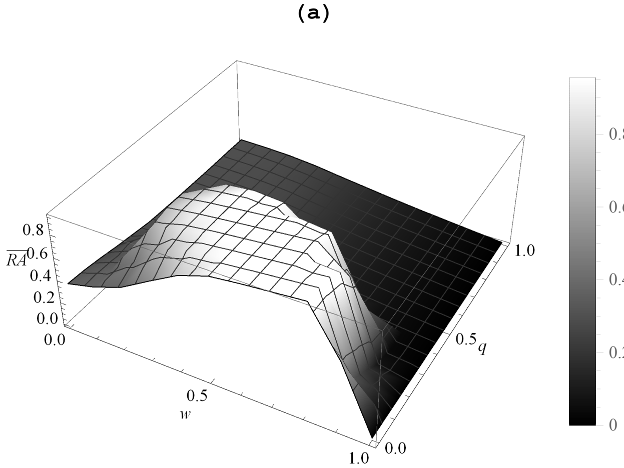
(c)



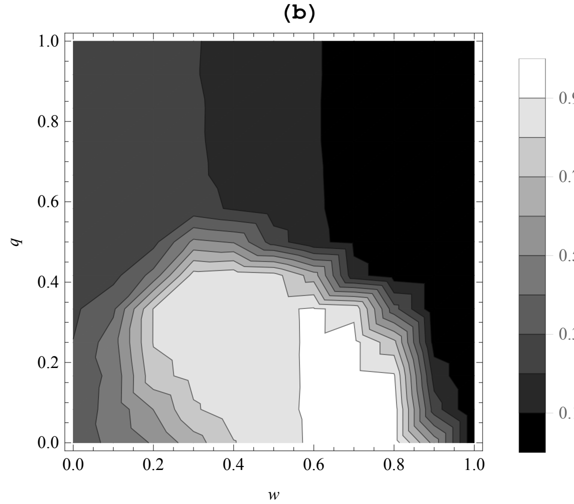
CASE 10: $(p^r,\ p^a,\ \tau^S,\ \tau^{CNF},\ \tau^{CMP}) = (0.25,\ 0.025,\ 0.5,\ 0.3,\ 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.35852	0.41918	0.51068	0.65509	0.79451	0.87880	0.90821	0.93136	0.95434	0.56099	0.00002
	0.05	0.34776	0.43276	0.60161	0.78733	0.85719	0.88508	0.90894	0.93185	0.95481	0.24879	0.00002
	0.1	0.32690	0.42881	0.76755	0.83124	0.86246	0.88542	0.90783	0.93163	0.91238	0.15949	0.00003
	0.15	0.30195	0.45861	0.80507	0.83692	0.86165	0.88470	0.90829	0.93173	0.72900	0.05522	0.00003
	0.2	0.28138	0.37964	0.80427	0.83837	0.86297	0.88561	0.90858	0.87856	0.33578	0.02525	0.00002
	0.3	0.26148	0.26898	0.43308	0.83995	0.86262	0.84093	0.65150	0.12748	0.05188	0.02522	0.00002
	0.4	0.25556	0.25510	0.26776	0.52386	0.49154	0.25060	0.11382	0.07982	0.05127	0.02515	0.00002
	0.5	0.25168	0.25013	0.24018	0.23480	0.18795	0.14472	0.10819	0.07781	0.05108	0.02509	0.00001
	0.6	0.25028	0.24666	0.23366	0.21400	0.17661	0.14050	0.10703	0.07751	0.05045	0.02494	0.00002
	0.7	0.24881	0.24431	0.23406	0.21024	0.17576	0.13885	0.10497	0.07726	0.05066	0.02497	0.00003
	0.8	0.24877	0.24337	0.23144	0.21080	0.17363	0.13885	0.10493	0.07711	0.05027	0.02498	0.00003
	0.9	0.25126	0.24473	0.23032	0.20524	0.17171	0.13760	0.10598	0.07698	0.05062	0.02491	0.00001
	1.	0.24940	0.24353	0.23073	0.20693	0.17143	0.13878	0.10603	0.07662	0.05050	0.02482	0.00003

(a)



(b)



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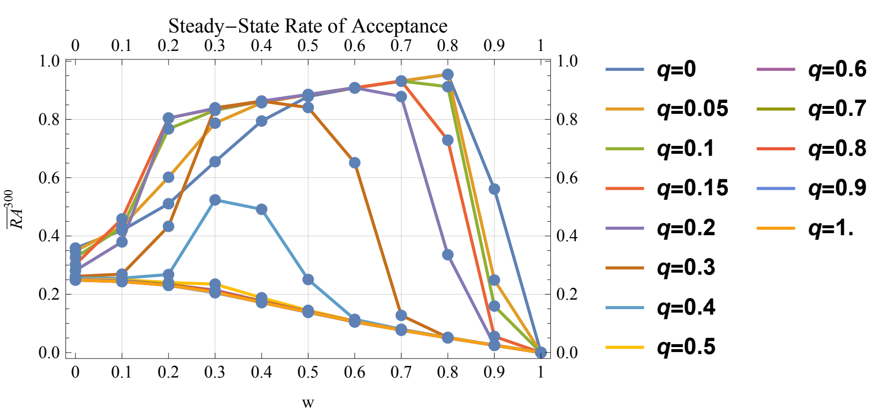
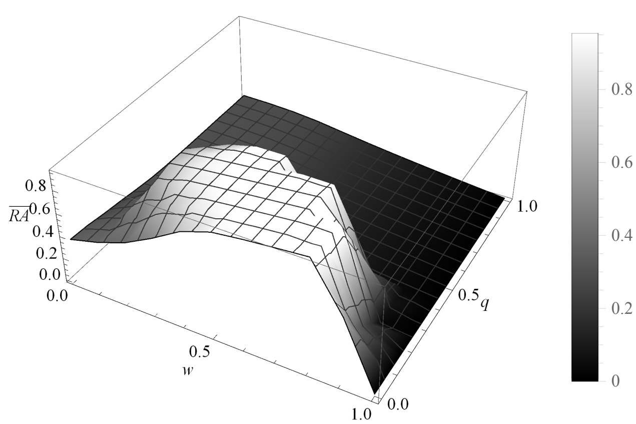


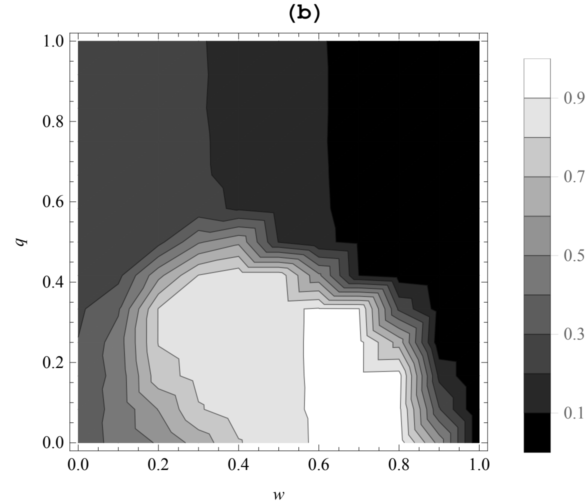
CASE 11: $(p^r,\ p^a,\ \tau^S,\ \tau^{CNF},\ \tau^{CMP}) = (0.25,\ 0.05,\ 0.5,\ 0.3,\ 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.35852	0.42362	0.51100	0.64237	0.79181	0.87663	0.90810	0.93202	0.95402	0.56056	0.00001
	0.05	0.34671	0.42782	0.60349	0.79033	0.85817	0.88441	0.90879	0.93160	0.92604	0.30824	0.00003
	0.1	0.32212	0.43512	0.76044	0.83342	0.86141	0.88562	0.90832	0.93118	0.94008	0.17408	0.00002
	0.15	0.30342	0.44995	0.80476	0.83815	0.86208	0.88558	0.90893	0.93175	0.65841	0.02538	0.00002
	0.2	0.28104	0.38599	0.80444	0.83970	0.86291	0.88547	0.90844	0.90554	0.27953	0.05551	0.00002
	0.3	0.26237	0.27059	0.56912	0.80321	0.86246	0.86267	0.52103	0.09890	0.05206	0.02534	0.00002
	0.4	0.25374	0.25374	0.26627	0.48670	0.57715	0.19401	0.11524	0.07974	0.05097	0.02520	0.00003
	0.5	0.25116	0.25009	0.24527	0.23527	0.18432	0.14538	0.10884	0.07852	0.05065	0.02528	0.00003
	0.6	0.25001	0.24595	0.23752	0.21102	0.17771	0.13989	0.10751	0.07743	0.05058	0.02500	0.00003
	0.7	0.24970	0.24528	0.23504	0.21058	0.17423	0.13920	0.10627	0.07689	0.05035	0.02480	0.00003
	0.8	0.25001	0.24411	0.23044	0.20692	0.17213	0.13789	0.10682	0.07764	0.05052	0.02497	0.00004
	0.9	0.24791	0.24180	0.22988	0.20860	0.17358	0.13694	0.10684	0.07732	0.05022	0.02504	0.00003
	1.	0.24821	0.24337	0.23105	0.20703	0.17171	0.13704	0.10569	0.07730	0.05034	0.02487	0.00003

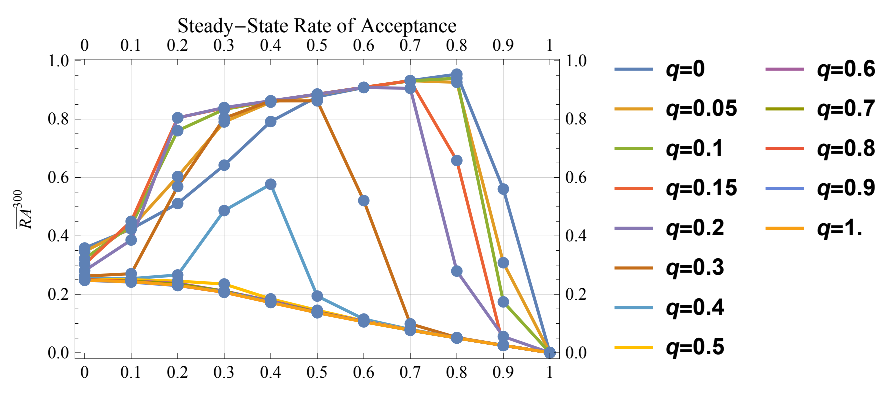
(a)



(b)



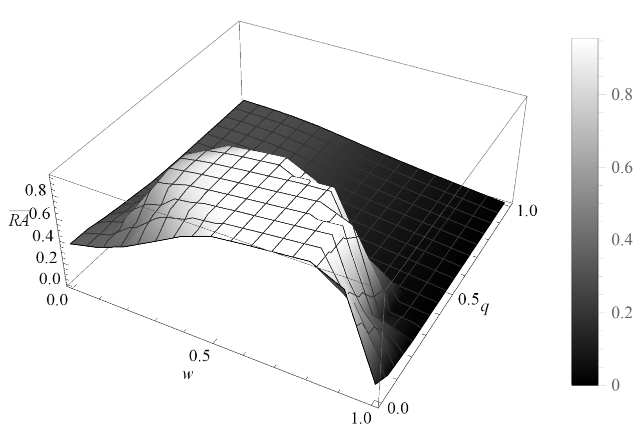
(c)



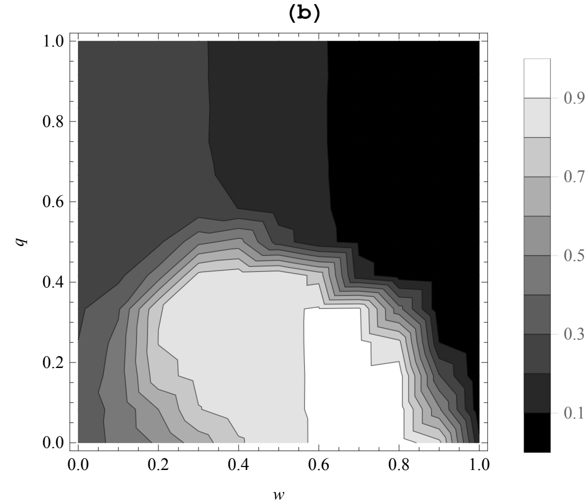
CASE 12: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.25, 0.1, 0.5, 0.3, 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.35860	0.41900	0.51589	0.64924	0.78614	0.87870	0.90803	0.93125	0.95481	0.82842	0.12506
	0.05	0.35208	0.42430	0.60051	0.79504	0.85707	0.88533	0.90817	0.93117	0.95430	0.51642	0.03129
	0.1	0.32290	0.44749	0.76708	0.83315	0.86120	0.88522	0.90797	0.93198	0.95421	0.30806	0.01564
	0.15	0.30126	0.43163	0.80268	0.83596	0.86288	0.88572	0.90853	0.93098	0.82744	0.10014	0.00005
	0.2	0.28224	0.38507	0.79560	0.83795	0.86231	0.88477	0.90863	0.91884	0.43542	0.02605	0.00003
	0.3	0.26291	0.27262	0.44745	0.83116	0.86254	0.88528	0.76440	0.12947	0.05259	0.02496	0.00003
	0.4	0.25556	0.25407	0.27845	0.47122	0.53685	0.25313	0.11686	0.07982	0.05193	0.02503	0.00002
	0.5	0.25143	0.24793	0.24198	0.23727	0.19907	0.14679	0.10911	0.07834	0.05130	0.02520	0.00002
	0.6	0.25010	0.24495	0.23758	0.21574	0.17792	0.14196	0.10720	0.07754	0.05001	0.02505	0.00003
	0.7	0.24983	0.24445	0.23371	0.20914	0.17340	0.13965	0.10587	0.07792	0.05035	0.02493	0.00003
	0.8	0.24861	0.24526	0.23306	0.21001	0.17434	0.13772	0.10579	0.07803	0.05063	0.02498	0.00003
	0.9	0.24937	0.24546	0.23419	0.20865	0.17313	0.13928	0.10683	0.07771	0.05058	0.02500	0.00004
	1.	0.24840	0.24277	0.23092	0.20803	0.17405	0.13849	0.10645	0.07693	0.04980	0.02480	0.00003

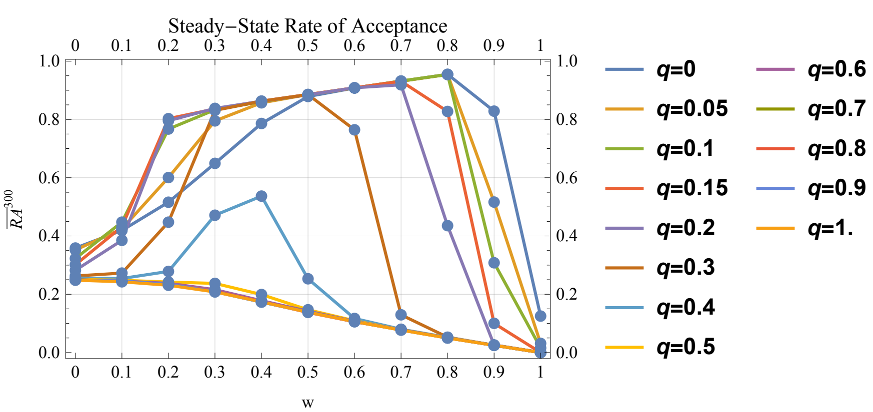
(a)



(b)



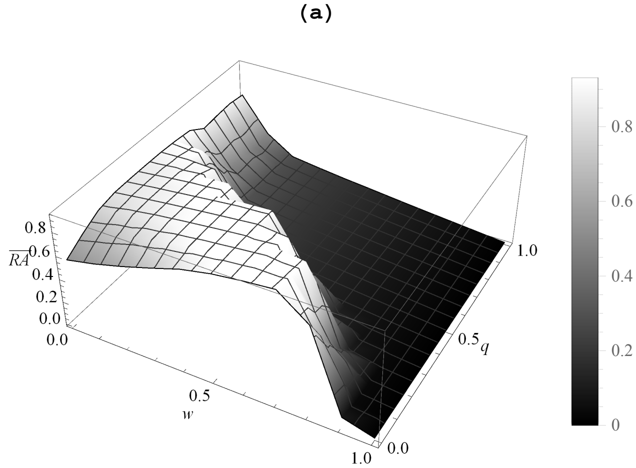
(c)



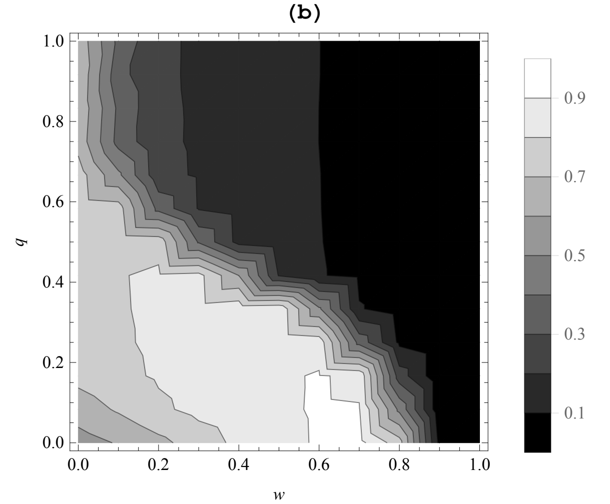
CASE 13: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.25, 0.025, 0.4, 0.35, 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.55652	0.60790	0.67300	0.74694	0.82493	0.87610	0.90810	0.93136	0.74265	0.06996	1.73610×10^{-6}
	0.05	0.65004	0.71191	0.78140	0.82785	0.86016	0.88539	0.90900	0.90521	0.47494	0.02529	3.47220×10^{-6}
	0.1	0.72811	0.77622	0.81091	0.83841	0.86363	0.88570	0.90786	0.87897	0.24890	0.02499	1.73610×10^{-6}
	0.15	0.75956	0.78861	0.81536	0.83953	0.86235	0.88490	0.85957	0.36509	0.07958	0.02496	6.94440×10^{-6}
	0.2	0.76588	0.79257	0.81606	0.83989	0.86345	0.87504	0.51731	0.10735	0.05072	0.02485	1.73610×10^{-6}
	0.3	0.76916	0.79377	0.81712	0.83072	0.59897	0.19185	0.10585	0.07679	0.05008	0.02490	6.94440×10^{-6}
	0.4	0.76989	0.77718	0.76336	0.38911	0.16653	0.13157	0.10260	0.07585	0.05002	0.02488	3.47220×10^{-6}
	0.5	0.76273	0.74463	0.36681	0.19278	0.15901	0.12897	0.10141	0.07501	0.05009	0.02490	1.73610×10^{-6}
	0.6	0.74844	0.52004	0.23126	0.18872	0.15668	0.12847	0.10105	0.07498	0.04959	0.02473	1.73610×10^{-6}
	0.7	0.66365	0.36681	0.22089	0.18721	0.15706	0.12794	0.09968	0.07479	0.04979	0.02474	6.94440×10^{-6}
	0.8	0.67934	0.38044	0.21954	0.18793	0.15619	0.12836	0.09984	0.07485	0.04948	0.02478	1.73610×10^{-6}
	0.9	0.68884	0.33351	0.21853	0.18477	0.15499	0.12739	0.10066	0.07469	0.04975	0.02471	0.00000
	1.	0.67126	0.37308	0.21873	0.18525	0.15461	0.12833	0.10079	0.07431	0.04966	0.02460	5.20830×10^{-6}

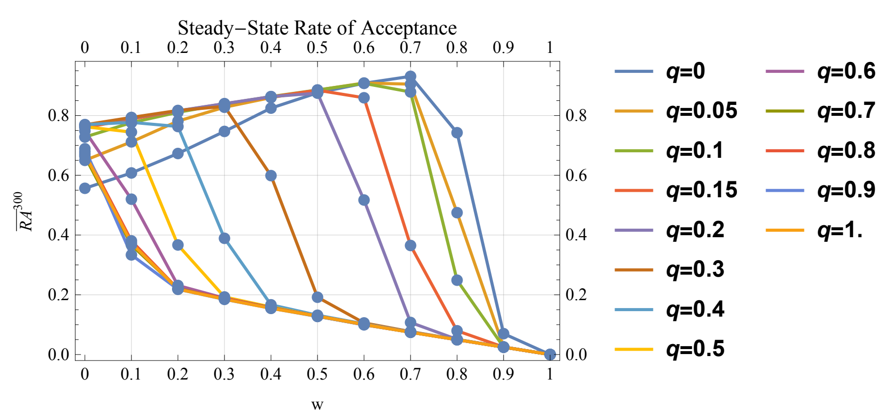
(a)



(b)



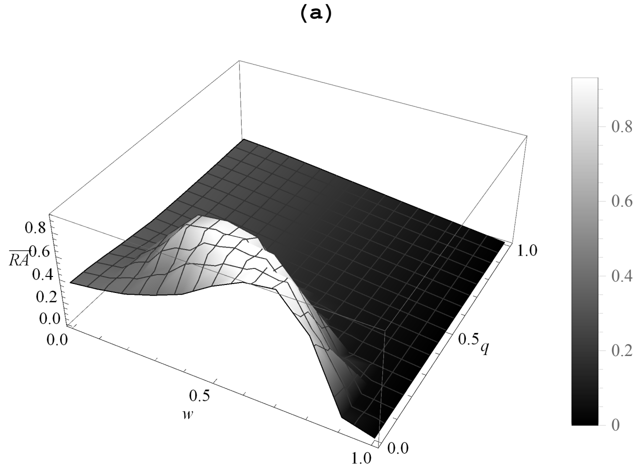
(c)



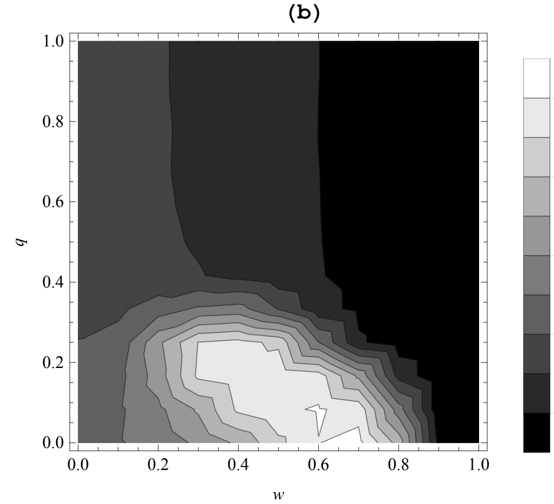
CASE 14: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.25, 0.025, 0.5, 0.35, 0.05)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.35852	0.39163	0.43888	0.52009	0.61902	0.77631	0.89802	0.93136	0.65791	0.06996	1.73610×10^{-6}
	0.05	0.34776	0.38310	0.47519	0.61450	0.82051	0.88292	0.90876	0.86606	0.44706	0.02529	3.47220×10^{-6}
	0.1	0.32690	0.36430	0.54935	0.81967	0.86171	0.88540	0.84934	0.57988	0.16453	0.02499	1.73610×10^{-6}
	0.15	0.30195	0.32779	0.57650	0.80302	0.83198	0.77716	0.40449	0.11241	0.05101	0.02496	6.94440×10^{-6}
	0.2	0.28138	0.28355	0.34686	0.41513	0.43768	0.29420	0.13204	0.07837	0.05071	0.02485	1.73610×10^{-6}
	0.3	0.26148	0.24865	0.22931	0.20602	0.17054	0.13575	0.10468	0.07672	0.05007	0.02490	6.94440×10^{-6}
	0.4	0.25556	0.23937	0.21786	0.19105	0.15980	0.13021	0.10235	0.07578	0.05002	0.02488	3.47220×10^{-6}
	0.5	0.25168	0.23590	0.21136	0.18578	0.15695	0.12836	0.10125	0.07497	0.05009	0.02490	1.73610×10^{-6}
	0.6	0.25028	0.23322	0.20837	0.18306	0.15511	0.12790	0.10092	0.07494	0.04959	0.02473	1.73610×10^{-6}
	0.7	0.24881	0.23165	0.20913	0.18251	0.15552	0.12751	0.09957	0.07476	0.04978	0.02474	6.94440×10^{-6}
	0.8	0.24877	0.23089	0.20776	0.18330	0.15465	0.12787	0.09970	0.07483	0.04948	0.02478	1.73610×10^{-6}
	0.9	0.25126	0.23159	0.20712	0.18076	0.15372	0.12698	0.10058	0.07467	0.04974	0.02471	0.00000
	1.	0.24940	0.23122	0.20706	0.18143	0.15341	0.12794	0.10068	0.07429	0.04966	0.02460	5.20830×10^{-6}

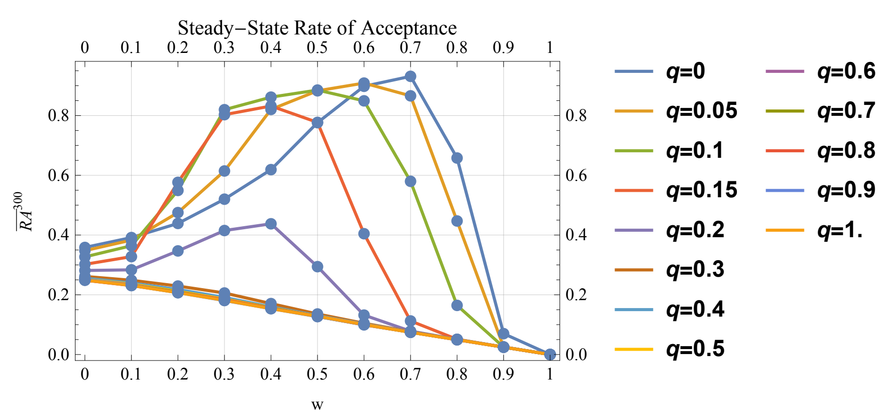
(a)



(b)



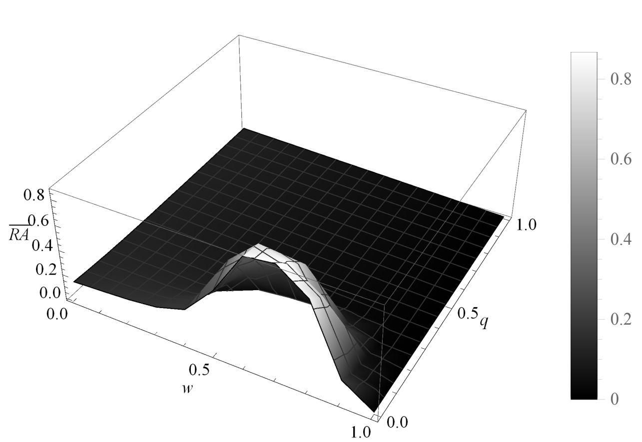
(c)



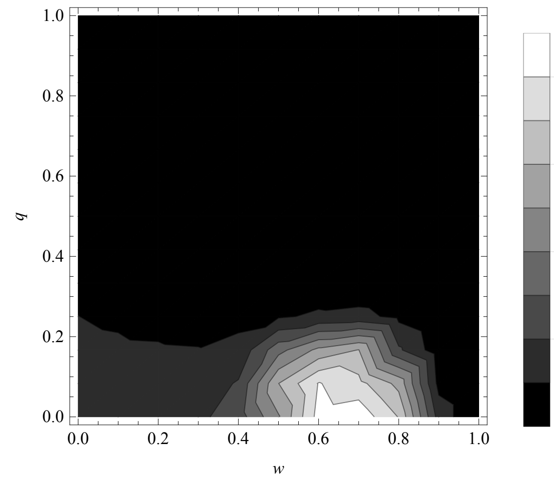
CASE 15: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.25, 0.025, 0.4, 0.3, 0.075)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.12599	0.13816	0.15281	0.17902	0.24955	0.49036	0.83811	0.86744	0.69531	0.15775	0.00002
	0.05	0.11413	0.11798	0.12327	0.13994	0.20982	0.59863	0.80608	0.73465	0.56898	0.06869	0.00002
	0.1	0.10558	0.10393	0.10310	0.10166	0.12445	0.36469	0.52647	0.60371	0.21645	0.03935	0.00003
	0.15	0.10016	0.09631	0.09058	0.08400	0.07626	0.08814	0.11526	0.12826	0.07554	0.00947	0.00003
	0.2	0.09706	0.09069	0.08262	0.07582	0.06499	0.05403	0.04381	0.02976	0.01909	0.00934	0.00002
	0.3	0.09482	0.08698	0.07794	0.06929	0.05914	0.04958	0.03881	0.02879	0.01884	0.00941	0.00002
	0.4	0.09520	0.08641	0.07706	0.06869	0.05769	0.04814	0.03792	0.02889	0.01919	0.00941	0.00002
	0.5	0.09426	0.08668	0.07634	0.06733	0.05785	0.04769	0.03855	0.02833	0.01926	0.00962	0.00001
	0.6	0.09468	0.08643	0.07614	0.06755	0.05696	0.04772	0.03820	0.02858	0.01882	0.00938	0.00002
	0.7	0.09432	0.08659	0.07694	0.06681	0.05738	0.04802	0.03785	0.02873	0.01906	0.00950	0.00003
	0.8	0.09496	0.08604	0.07652	0.06755	0.05792	0.04818	0.03837	0.02849	0.01889	0.00965	0.00003
	0.9	0.09562	0.08627	0.07690	0.06684	0.05734	0.04772	0.03827	0.02889	0.01933	0.00960	0.00001
	1.	0.09562	0.08603	0.07677	0.06731	0.05750	0.04846	0.03873	0.02869	0.01899	0.00944	0.00003

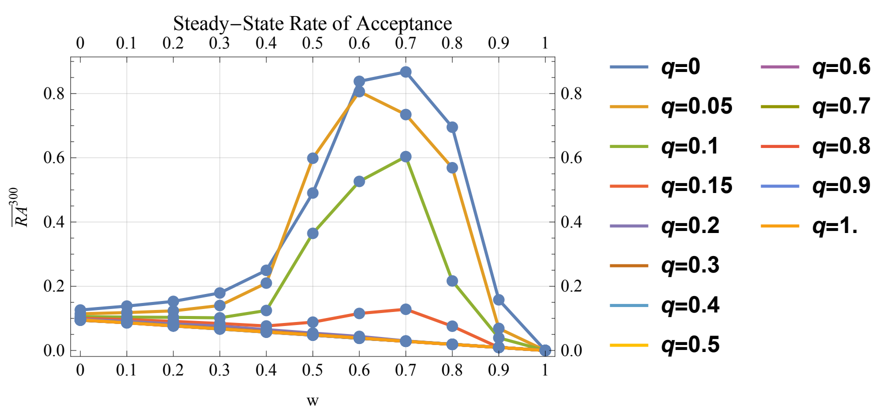
(a)



(b)



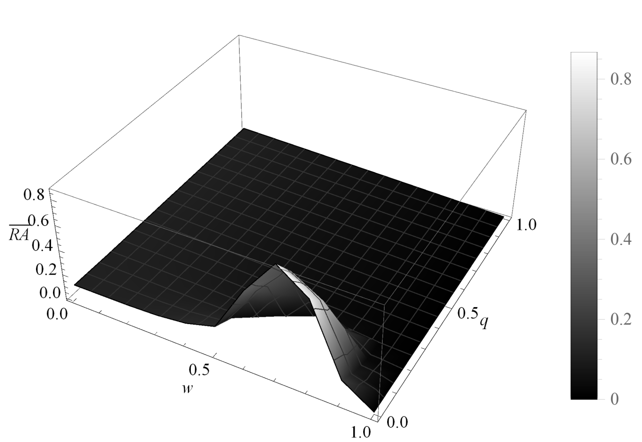
(c)



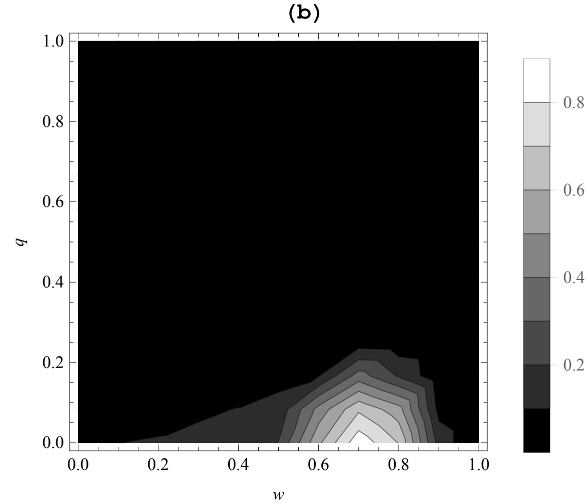
CASE 16: $(p^r, p^a, \tau^S, \tau^{CNF}, \tau^{CMP}) = (0.25, 0.025, 0.5, 0.3, 0.075)$

		w										
		0.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.
q	0	0.09811	0.09978	0.10196	0.11071	0.13702	0.20395	0.58147	0.86735	0.69531	0.15775	0.00002
	0.05	0.09584	0.09327	0.09146	0.09323	0.10144	0.12822	0.43751	0.68257	0.54087	0.06869	0.00002
	0.1	0.09342	0.09022	0.08668	0.08141	0.07554	0.07289	0.09354	0.34364	0.18880	0.02444	0.00003
	0.15	0.09389	0.08829	0.08149	0.07534	0.06642	0.05727	0.04560	0.04597	0.03371	0.00947	0.00003
	0.2	0.09362	0.08716	0.07951	0.07222	0.06193	0.05173	0.04099	0.02908	0.01909	0.00933	0.00002
	0.3	0.09332	0.08597	0.07728	0.06889	0.05887	0.04940	0.03873	0.02879	0.01882	0.00941	0.00002
	0.4	0.09458	0.08591	0.07674	0.06852	0.05758	0.04811	0.03791	0.02889	0.01919	0.00941	0.00002
	0.5	0.09392	0.08652	0.07625	0.06728	0.05781	0.04768	0.03855	0.02832	0.01926	0.00962	0.00001
	0.6	0.09446	0.08631	0.07605	0.06751	0.05695	0.04771	0.03820	0.02858	0.01882	0.00938	0.00002
	0.7	0.09417	0.08654	0.07690	0.06677	0.05737	0.04801	0.03785	0.02872	0.01906	0.00950	0.00003
	0.8	0.09480	0.08593	0.07646	0.06753	0.05791	0.04818	0.03836	0.02849	0.01889	0.00965	0.00003
	0.9	0.09553	0.08615	0.07687	0.06682	0.05732	0.04772	0.03827	0.02888	0.01933	0.00960	0.00001
	1.	0.09548	0.08598	0.07668	0.06728	0.05748	0.04845	0.03872	0.02869	0.01899	0.00944	0.00003

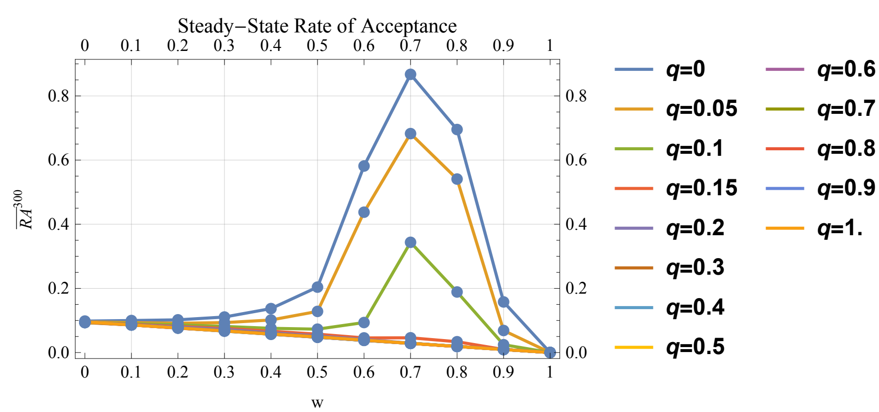
(a)



(b)



(c)



Appendix C: Mathematica Code for the Benchmark Simulation

The source code is written using Wolfram Mathematica 10 (version 10.4.1.0). For each parameter configuration, the computation was distributed among 64 cores, one core for each replication, at the Wharton HPCC (High Performance Computing Cluster). The output data were saved and exported for further analysis, the results of which are presented in this paper.

```
#!/usr/local/bin/WolframScript -script
myTask=$ScriptCommandLine[[2]];
Print["Running task: ",myTask]
```

Stigma Project: Base Code for Benchmark Simulation

Code created by: Myong-Hun Chang (initial date: 3/8/2016)
Revised: 4/21/2017

```
SeedRandom[myTask];
```

Functions

Initialize the Population Grid

```
population[X_,Y_]:=
(
P=X*Y;
toIndex[n_,m_]:=n-1+(m-1)*X; (* function for transforming (n, m) into a single index number *)
toCoord[x_]:={Mod[x,X]+1,Quotient[x,X]+1}; (* function for transforming an index number into (n, m) coordinates *)
);
```

Agent Types

```
typestatus[s_,w_]:=
(
stig=RandomSample[Range[P],IntegerPart[P*s]];
types=ReplacePart[Table[0,{i,1,P}],Subsets[stig,{1}]→1];
comp=RandomSample[Complement[Range[P],stig],Round[(P-Length[stig])*(1-w)]];
types=ReplacePart[types,Subsets[comp,{1}]→2];
Do[type[i]=types[[i+1]],{i,0,P-1}];
ClearAll[types,stig,comp];
);
```

Agent Neighbors (Torus)

```
xtbl[a_]:=
(
Which[
(a-R≥1)&&(a+R≤X),
Table[i,{i,a-R,a+R}],
(a-R<1)&&(a+R≤X),
Union[Table[i,{i,1,a+R}],Table[i,{i,X+(a-R),X}]],
(a-R≥1)&&(a+R>X),
Union[Table[i,{i,a-R,X}],Table[i,{i,1,(a+R)-X}]]
]
);
```

```
ytbl[b_]:=
(
Which[
(b-R≥1)&&(b+R≤Y),
Table[i,{i,b-R,b+R}],
(b-R<1)&&(b+R≤Y),
Union[Table[i,{i,1,b+R}],Table[i,{i,Y+(b-R),Y}]],
(b-R≥1)&&(b+R>Y),
Union[Table[i,{i,b-R,Y}],Table[i,{i,1,(b+R)-Y}]]
]
);
```

```
neighbor[R_]:=
(
nbIndex=Table[Flatten[Table[toIndex[i,j],{i,xtbl[a]},{j,ytbl[b]}],1],{b,1,Y},{a,1,X}];
FNB=Flatten[nbIndex,1];
Do[nb[i]=FNB[[i+1]],{i,0,P-1}];
ClearAll[FNB,nbIndex];
);
```

Networks

```
network[netSize_,q_]:=
(
(* construct potential network *)
Do[netP[a]=DeleteCases[nb[a],a],{a,0,P-1}]; (* exclude oneself from one's own neighborhood *)
(* construct actual network *)
Do[netA[i]={},{i,0,P-1}];
avail=Table[i,{i,0,P-1}];
totLen=0; avgLen=0;
invP=Table[i,{i,0,P-1}];
While[avgLen<netSize,
trial1=RandomChoice[avail];
indq=RandomReal[];
trial2=Which[0≤indq<q,RandomChoice[Complement[invP,nb[trial1]]],q≤indq≤1,RandomChoice[netP[trial1]]];
If[FreeQ[netA[trial1],trial2],
netA[trial1]=Join[netA[trial1],{trial2}];
netA[trial2]=Join[netA[trial2],{trial1}];
totLen=totLen+2;
avgLen=totLen/P;
];
];
);
```

Social Dynamics

```
evolve[v_,T_,w_,sCrit_,aCrit_,eCrit_,aR_,aN_]:=(
Do[netApart[i]=Partition[netA[i],1],{i,0,P-1}]; (* partition netA to extract the elements from tempAccept*)
aType=Table[type[i],{i,0,P-1}]; (* put agent types into a table form for use in the code *)

(* initial condition on the population at t=0 *)
initS=RandomSample[Position[aType,1],Round[Count[aType,1]*aR]]; (* positions of type-Ss who are initially revealed *)
```

```
initN=RandomSample[Position[aType,0|2],Round[Count[aType,0|2]*aN]]; (* positions of normals initially accepting *)
timeReveal[0]=ReplacePart[Table[-1,{i,1,P}],initS→1]; (* type S initially revealed; everyone else hidden *)
timeAccept[0]=ReplacePart[Table[0,{i,1,P}],Union[initS,initN]→1]; (* all initially accepting; others neutral *)

Do[rho[i]=Which[type[i]==1,sCrit,type[i]==0,aCrit,type[i]==2,eCrit],{i,0,P-1}]; (* assign thresholds *)

Do[
    popReveal=Count[timeReveal[t-1],1]; (* no. revealed agents in the global population *)
    popAccept=Count[timeAccept[t-1],1]; (* no. accepting agents in the global population *)

    Do[
    If[netA[i]=={},
    propA[i]=0;
    propR[i]=0;
    ,
    propA[i]=Count[Extract[timeAccept[t-1],netApart[i]+1],1]/Length[netA[i]];
    propR[i]=Count[Extract[timeReveal[t-1],netApart[i]+1],1]/Length[netA[i]];
    ]
    ,{i,0,P-1}]; (* compute the proportion of an agent's network who are accepting/revealed *)

    (* decision making by the stigmatized (S) - type 1 : switch from (N,H) to (A,R) iff a_i^(t-1)≥τ^S *)
    tempReveal=ReplacePart[timeReveal[t-1],Intersection[Position[aType,1],
        Position[timeReveal[t-1],-1],
        Position[Table[propA[i]-rho[i],{i,0,P-1}],n_/;n≥0]]->1];
    tempAccept=ReplacePart[timeAccept[t-1],Intersection[Position[aType,1],
        Position[timeAccept[t-1],0],
        Position[Table[propA[i]-rho[i],{i,0,P-1}],n_/;n≥0]]→1];

    (* decision making by the conformists (CNF) - type 0 *)
        (* go to (O,H) if a_i^(t-1)<τ^CNF : oppose *)
    tempAccept=ReplacePart[tempAccept,Intersection[Position[aType,0],
        Position[Table[propA[i]-rho[i],{i,0,P-1}],n_/;n<0]]→-1];
        (* go to (A,H) if a_i^(t-1)≥τ^CNF : accept *)
```

```
    tempAccept=ReplacePart[tempAccept,Intersection[Position[aType,0],
        Position[Table[propA[i]-rho[i],{i,0,P-1}],n_/;n≥0]]→1];

    (* decision making by the compassionists (CMP) - type 2 *)
        (* go to (N,H) if r_i^{t-1}<τ^CMP : neutral *)
    tempAccept=ReplacePart[tempAccept,Intersection[Position[aType,2],
        Position[Table[propR[i]-rho[i],{i,0,P-1}],n_/;n<0]]→0];
        (* go to (A,H) if r_i^{t-1}≥τ^CMP : accept *)
    tempAccept=ReplacePart[tempAccept,Intersection[Position[aType,2],
        Position[Table[propR[i]-rho[i],{i,0,P-1}],n_/;n≥0]]→1];

    (* update the individual status *)
    timeReveal[t]=tempReveal;
    timeAccept[t]=tempAccept;

    (* update the population state *)
    timePropA[t-1]=Table[propA[i],{i,0,P-1}];
    timePropR[t-1]=Table[propR[i],{i,0,P-1}];

,{t,1,T}];

);
```

Parameter Configuration

```
dx=0;  (* dataset index *)
w=0.8;  (* proportion of the "normal" population who are conformists *)
X=100;Y=100; (* dimensions of the population grid *)
s=0.1; (* proportion of the population who are stigmatized *)
q=0; (* probability of an agent's link being from outside his neighborhood (nb) *)
R=3; (* range of the Moore neighborhood for network construction *)
netSize=20; (* mean size of the actual network *)
v=1; (* proportion of the population who update their status each period *)
T=300; (* time horizon *)
aR=0.15; (* fraction of the stigmatized who are revealed at t=0 *)
aN=0; (* fraction of the normals who are revealed at t=0 *)
sCrit=0.4; (* threshold to reveal by a stigmatized *)
aCrit=0.3; (* threshold to accept by a conformist *)
eCrit=0.05; (* threshold to accept by a compassionist *)
REP=1;  (* no. replications *)
```

Simulate

```
(* call the functions *)
population[X,Y];
neighbor[R];

(* initialize data collection *)
pNormA={};
pNormO={};
pNormN={};
pStigR={};

numNormA={};
numConfA={};
numCompA={};
```

```
(* initialize network composition *)
popType={};
popNetSize={};
popNumS={};
popPropS={};
ssAccept={};
ssReveal={};

LCC={};
GCC={};

Do[
network[netSize,q];

(* network statistics *)
inetSize=Table[Length[netA[i]],{i,0,P-1}]; (* i's network size *)
popNetSize=Append[popNetSize,inetSize];

comNet=Table[Map[UndirectedEdge[i,#]&,netA[i]],{i,0,X*Y-1}];

(* compute the clustering coefficient *)
LCC=Append[LCC,Mean[LocalClusteringCoefficient[Flatten[comNet]]]//N];
GCC=Append[GCC,GlobalClusteringCoefficient[Flatten[comNet]]//N];

Do[
typestatus[s,w];
evolve[v,T,w,sCrit,aCrit,eCrit,aR,aN];
(* compute and save*)
numReveal=Table[Count[timeReveal[t],1],{t,0,T}];
numAccept=Table[Count[timeAccept[t],1],{t,0,T}];
numNeutral=Table[Count[timeAccept[t],0],{t,0,T}];
numOppose=Table[Count[timeAccept[t],-1],{t,0,T}];
```

```
numNormal=Count[aType,0|2];
 numStig=Count[aType,1];
 posNorm=Position[aType,0|2];
 posStig=Position[aType,1];
 pNormA=Append[pNormA,Table[(1/numNormal)*Length[Intersection[posNorm,Position[timeAccept[t],1]]],{t,0,T}]];
pNormO=Append[pNormO,Table[(1/numNormal)*Length[Intersection[posNorm,Position[timeAccept[t],-1]]],{t,0,T}]];
 pNormN=Append[pNormN,Table[(1/numNormal)*Length[Intersection[posNorm,Position[timeAccept[t],0]]],{t,0,T}]];
 pStigR=Append[pStigR,Table[(1/numStig)*Length[Intersection[posStig,Position[timeReveal[t],1]]],{t,0,T}]];

posCNF=Position[aType,0]; (* positions of conformists *)
posCMP=Position[aType,2]; (* positions of compassionists *)

(* fraction of accepting normals who are conformists *)
numNormA=Append[numNormA,Table[Length[Intersection[posNorm,Position[timeAccept[t],1]]],{t,0,T}]];
numConfA=Append[numConfA,Table[Length[Intersection[posCNF,Position[timeAccept[t],1]]],{t,0,T}]];
numCompA=Append[numCompA,Table[Length[Intersection[posCMP,Position[timeAccept[t],1]]],{t,0,T}]];

(* collect network-specific data on agents' status *)
inumS=Table[Count[Extract[aType,netApart[i]+1],1],{i,0,P-1}]; (* number of Ss in i's network *)
 ipropS=inumS/inetSize; (* prop. of Ss in i's network *)

popType=Append[popType,aType];
popNumS=Append[popNumS,inumS];
popPropS=Append[popPropS,ipropS];
ssAccept=Append[ssAccept,timeAccept[T]];
ssReveal=Append[ssReveal,timeReveal[T]];

,{w,0,1,0.1}];

,{q,Join[{0,0.05,0.1,0.15},Table[k,{k,0.2,1,0.1}]]}];

(* export the dataset *)
Export["data"<>ToString[dx]<>"/pNormA"<>ToString[myTask]<>".dat",pNormA,"WDX"];
```

```
Export["data"<>ToString[dx]<>"/pNormO"<>ToString[myTask]<>".dat",pNormO,"WDX"];
Export["data"<>ToString[dx]<>"/pNormN"<>ToString[myTask]<>".dat",pNormN,"WDX"];
Export["data"<>ToString[dx]<>"/pStigR"<>ToString[myTask]<>".dat",pStigR,"WDX"];

Export["data"<>ToString[dx]<>"/numNormA"<>ToString[myTask]<>".dat",numNormA,"WDX"];
Export["data"<>ToString[dx]<>"/numConfA"<>ToString[myTask]<>".dat",numConfA,"WDX"];
Export["data"<>ToString[dx]<>"/numCompA"<>ToString[myTask]<>".dat",numCompA,"WDX"];

Export["data"<>ToString[dx]<>"/LCC"<>ToString[myTask]<>".dat",LCC,"WDX"];
Export["data"<>ToString[dx]<>"/GCC"<>ToString[myTask]<>".dat",GCC,"WDX"];

Export["data"<>ToString[dx]<>"/aType"<>ToString[myTask]<>".dat",popType,"WDX"];
Export["data"<>ToString[dx]<>"/inetSize"<>ToString[myTask]<>".dat",popNetSize,"WDX"];
Export["data"<>ToString[dx]<>"/inumS"<>ToString[myTask]<>".dat",popNumS,"WDX"];
Export["data"<>ToString[dx]<>"/ipropS"<>ToString[myTask]<>".dat",popPropS,"WDX"];
Export["data"<>ToString[dx]<>"/ssAccept"<>ToString[myTask]<>".dat",ssAccept,"WDX"];
Export["data"<>ToString[dx]<>"/ssReveal"<>ToString[myTask]<>".dat",ssReveal,"WDX"];
```