

Table 1: Categorization Accuracy		
Model	Categorization Accuracy (Average)	(NYT) Categorization Accuracy (Average)
Centroid	0.62	0.23
kNN Model	0.57	0.29
Naive Bayes Model	0.57	0.13
TwoTier	0.62	0.25
TwoTier_kNN	0.61	0.24

Table 2: Spearman and Pearson Correlations (NGRAM)				
Centroid Pearson	Centroid Spearman	kNN Model Pearson	kNN Model Spearman	year
0.30	0.22	0.14	-0.03	1990
0.13	-0.07	0.38	0.02	1980

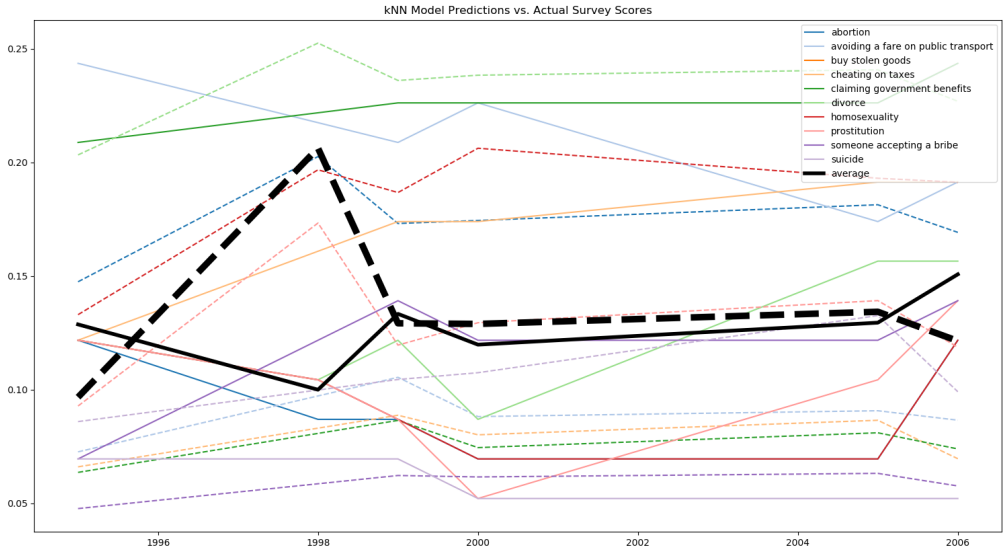
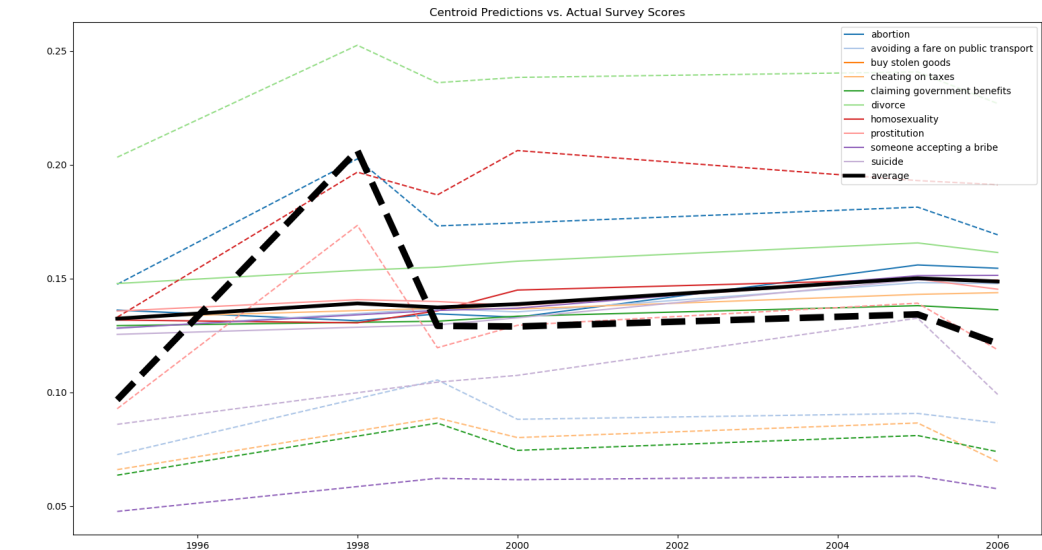


Table 3: Spearman and Pearson Correlations (NYT)				
Centroid Pearson	Centroid Spearman	kNN Model Pearson	kNN Model Spearman	year
				1981
0.85	0.64	-0.05	0.25	1995
0.67	0.35	-0.45	-0.47	1999
0.71	0.55	-0.27	-0.42	2006

Table 4: Raw Prediction Scores for Table 3				
concept	year	score	Centroid	kNN Model
claiming government benefits	1981	1.673978494623656		
avoiding a fare on public transport	1981	1.9303225806451614		
cheating on taxes	1981	2.055913978494624		
someone accepting a bribe	1981	1.4270967741935483		
homosexuality	1981	2.2176344086021507		
prostitution	1981	2.292043010752688		
abortion	1981	3.4051612903225807		
divorce	1981	4.53505376344086		
euthanasia	1981	3.447741935483871		
suicide	1981	1.9019354838709677		
buy stolen goods	1981	1.6670967741935483		
claiming government benefits	1995	1.590142671854734	0.4935119424755856	0.75
avoiding a fare on public transport	1995	1.8158236057068742	0.4890315767615918	0.875
cheating on taxes	1995	1.6511024643320362	0.5070157598714291	0.4375
someone accepting a bribe	1995	1.1926070038910506	0.48937088280519864	0.25
homosexuality	1995	3.3223086900129704	0.502937444539267	0.4375
prostitution	1995	2.3190661478599224	0.5179616386710513	0.4375
abortion	1995	3.683527885862516	0.5195365918060406	0.4375
divorce	1995	5.076523994811932	0.5640819359059378	0.4375
euthanasia	1995	4.301556420233463		
suicide	1995	2.1478599221789882	0.47890880245196726	0.25
buy stolen goods	1995	1.3605706874189365	0.49010503665641636	0.3125
claiming government benefits	1999	2.160833333333333	0.5009137513814911	0.8125
avoiding a fare on public transport	1999	2.6341666666666668	0.5219068101856656	0.75
cheating on taxes	1999	2.2175	0.5226060347759985	0.625
someone accepting a bribe	1999	1.5558333333333334	0.5189711412144108	0.5
homosexuality	1999	4.663333333333333	0.518262911698627	0.3125
prostitution	1999	2.9875	0.5339862433418563	0.3125
abortion	1999	4.323333333333333	0.513215842668194	0.3125
divorce	1999	5.894166666666667	0.5914588949164655	0.4375
euthanasia	1999	5.004166666666666		
suicide	1999	2.61	0.49481223046937023	0.25
claiming government benefits	2006	1.8807045636509208	0.5201801920188328	0.875
avoiding a fare on public transport	2006	2.1240992794235387	0.5639085463748911	0.6875
cheating on taxes	2006	1.6653322658126501	0.5487726110547421	0.6875
someone accepting a bribe	2006	1.3138510808646917	0.5777479320955536	0.5
homosexuality	2006	4.014411529223379	0.5697272817087906	0.4375
prostitution	2006	2.799839871897518	0.5545676971533	0.5
abortion	2006	3.9807846277021617	0.5896730674723486	0.4375
divorce	2006	5.265812650120096	0.6160486318215248	0.5625
euthanasia	2006	4.466773418734988		
suicide	2006	2.3843074459567655	0.5663134655986533	0.1875
claiming government benefits	2011	2.089605734767025		
Stealing property	2011	1.5528673835125448		
Parents beating children	2011	1.6953405017921146		
Violence against other people	2011	1.9368279569892473		
avoiding a fare on public transport	2011	2.361111111111111		
cheating on taxes	2011	1.7405913978494623		
someone accepting a bribe	2011	1.5864695340501793		
homosexuality	2011	5.155017921146953		
abortion	2011	4.60931899641577		
divorce	2011	5.960573476702509		
suicide	2011	2.8969534050179213		
Sex before marriage	2011	5.643817204301075		