sociological science

Supplement to:

Budak, Ceren, and Duncan J. Watts. 2015. "Dissecting the Spirit of Gezi: Influence vs. Selection in the Occupy Gezi Movement." Sociological Science 2: 370-397.

Models

Own Party Support

We fit a multivariate linear mixed model as implemented by Bates et al. (2014) with fixed effects for interactions between party affiliation and Gezi involvement and random effects for the user the particular tweet is tweeted by. Party affiliation is a categorical predictor with four values: *AKP, CHP, MHP, or BDP*. Similarly, Gezi participation is a categorical predictor with three possible values: *non-participant*, *#Gezi* (Gezi participants on Twitter who did not have any protest check-ins) or *"Check-in"* (Gezi participants on Twitter who also had protest check-ins). The interaction between these two categorical variables has 12 possible values. Following the notation of Gelman and Hill (2006), the model is given by:

$$Pr(RT_i = p_{j,max}) = logit^{-1}(\alpha_0 + \alpha^{polit.gezi}_{polit_i.gezi_i} + a_{j[i]}{}^{user}) \quad (1)$$

where RT_i is retweeted by user u_j and $p_{j,max}$ is the party that u_j supports the most. Here α_0 is the fixed baseline intercept, $\alpha^{polit.gezi}_{polit_i.gezi_i}$ encodes the predictor variable for the particular political affiliation ($polit_i$) and Gezi participation ($gezi_i$) the retweet (or rather the user who shared the retweeted) corresponds to. Finally, $a^{user}_{j[i]}$ gives the varying coefficient corresponding to the associated user for the tweet. In particular, the subscript $j[i]$ indicates the user (cell) to which the tweet belongs to. The varying coefficients $a^{user}_{j[i]}$ are given independent prior distributions $a^{user}_{j[i]} \sim \mathcal{N}(0, \sigma^2_{user})$ with hyperprior distribution defined as $\sigma^2_{var} \sim inv - \chi^2(v, \sigma^2_0)$.

AKP Support

We fit a multivariate linear mixed model to identify the likelihood of a user with a particular party affiliation and Gezi participation retweeting an AKP Parliament

member, including random effects for the user the retweet is tweeted by. This model is very similar to that given in Equation 1 and can be given as:

$$Pr(RT_i = AKP) = logit^{-1}(\alpha_0 + \alpha^{polit.gezi}_{polit_i.gezi_i} + a_{j[i]}{}^{user}) \quad (2)$$

Selection: Estimating Pre-Gezi Affinity

We fit a mixed effects model with fixed effects for interactions between party affiliation and Gezi involvement and random effects for the user the particular tweet is tweeted by:

$$Pr(RT_i \in o_{u[i]}) = logit^{-1}(\alpha_0 + \alpha^{polit.gezi}_{polit_i.gezi_i} + a_{j[i]}{}^{user}) \quad (3)$$

where $o_{u[i]} = \{BDP, MHP\}$ for users supporting CHP, $o_{u[i]} = \{BDP, CHP\}$ for users supporting MHP and $o_{u[i]} = \{CHP, MHP\}$ for users supporting BDP.

Emergence: Estimating Change During and After Gezi

We again fit a mixed-effects model that now incorporates the temporal aspects as a categorical predictor (corresponding to: 1) prior to, 2) during, and 3) after Gezi). Moreover, because we are interested in the behavior of each subgroup in these three periods, we also model interactions among this predictor, Gezi participation and political affiliation. The interactions generate 36 possible values (3x4x3). In addition, as in the case of the earlier prediction tasks, we include random effects for the user. The model can be written:

$$Pr(RT_i \in o_{u[i]}) = logit^{-1}(\alpha_0 + \alpha^{polit.gezi.time}_{polit_i.gezi_i.time_i} + a_{j[i]}{}^{user}) \quad (4)$$

Here α_0 is the fixed intercept, $\alpha^{polit.gezi.time}_{polit_i.gezi_i.time_i}$ encodes the predictor variable for the particular political affiliation ($polit_i \in$ {BDP, CHP, MHP}), Gezi participation ($gezi_i \in$ { non–participant, #Gezi, Check-in}), and the time period ($time_i \in \{prior, during, after\}$) the retweet corresponds to.

Eclectic BDP Subgroup

Here we investigate the surprising finding in **Own-Party and AKP Loyalty** about the BDP supporters who participated in Gezi and had a relatively high support for AKP. For brevity we will refer to this group as the *eclectic BDP subgroup* and explore three possible explanations for their existence: 1) The proxy we use for Gezi support is inaccurate for this subgroup, 2) The proxy we use for party support is inaccurate for this subgroup, and 3) Gezi participation cannot be fully explained by antagonism towards the AKP government. In order to investigate the feasibility of the first two explanations, we perform the following technique: We identify fifty BDP supporters who participated in the Gezi movement (used uprising hashtags at least once) and have the highest AKP retweet likelihood within the BDP supporter population, that is the most eclectic of the eclectic BDP subgroup. We first manually inspect their

Gezi related tweets and find out that only two out of fifty users were hostile to the movement and one user was initially in favor of the movement and later became opposed to it stating that "the movement became a nationalistic show". Thus, we conclude that explanation (1) is not likely the cause of the empirical finding.

In evaluating the feasibility of explanation (2) we identify the retweets of AKP Parliament members issueed by this subgroup. It is possible for a Twitter user to retweet an AKP member's tweet and inject sarcastic comments. In such a case, retweeting, which we consider a form of support, would signal the opposite notion. However, a manual inspection of the AKP retweets of the eclectic BDP subgroup show that *none* of these users were retweeting AKP members sarcastically; all tweets reflected positively on AKP. The most common theme of the retweeted content, which was retweeted by the 45% of the eclectic BDP subgroup, was on Kurdish initiative (also referred to as Kurdish overture) (Economist, 2009). Kurdish initiative was actively pursued by the AKP government in 2009 and later in 2012 and aimed to improve the human rights of Turkish citizens of Kurdish origin and to end a 25-year conflict between Turkey and the PKK. Other predominant topics were the constitutional referendum of 2010, Islamic values, and the economy.

Given the result of this analysis, we conclude that #Gezi participation cannot be viewed exclusively as an attempt by opposition parties to denounce the government. The frustration and the reasons for participation are more issue driven at least for the "eclectic" subgroup of BDP supporters who were sympathetic towards AKP when AKP was actively pursuing issues that they cared about.

References

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