S1 File. Goodness-of-fit (GOF) for SAB models

Goodness-of-Fit (GOF) testing has gradually become the new standard in the field of SAB modeling (Snijders, 2014). Lospinoso (2012) proposed to use the Monte Carlo Mahalanobis Distance test for SAB models, which is implemented in the RSiena package (Ripley et al., 2017). A p-value is reported to test whether the average values of the auxiliary network statistics (e.g., distribution of in-degree, out-degree, geodesic distance, and triad census) over m (1000 by default) simulation runs are close to the values observed in the data. Plotting functions can be used to diagnose bad fit (Ripley et al., 2017; Lospinoso & Snijders, 2011).

We assessed the appropriateness of our model specification by assessing key network statistics in the schools during the final time point (wave 3). Figure S2 shows the GOF testing results of estimated SAB models for Sunshine High. The p-values of the four auxiliary statistics are greater than 0.05. In other words, the null hypothesis that our SAB models could reproduce several key network and behavior statistics at the final time point is not rejected. The GOF testing results of the other SAB models are available from the authors upon request.

References
Lospinoso JA, Snijders TAB. Goodness of Fit for Social Network Dynamics. Presentation at the Sunbelt XXXI, St. Pete's Beach, FL, 2011.
Figure. Goodness-of-fit testing of SAB model for Sunshine High