

X is not influential in  $C_{small}$  as it only connects to three nodes in  $C_{small}$  while the nodes in the clique connect to at least four nodes in  $C_{small}$ .

When we consider all nodes as a community, X becomes influential as it connects to 6 nodes, whereas the rest of the nodes only connect to at most 5 nodes.

We use degrees as the influence model to simplify our discussion, but similar counterexamples can be found with the IC model used in our paper.