Victoria Gomes-Boronat

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Content Homogeneity's role in Content House/Creator Popularity

Abstract

Tik Tok is the latest craze in the social media realm, and with its increasing popularity and influence, various "content creation houses" have been born. These content creation houses are made up of various TikTok "influencers" who live together, create content and merge their respective networks. According to the similarity attraction effect, the creators within each house will most likely have similar interests, values, networks and content, and according to previous studies on network homogeneity, the network homogeneity and the size of the network increases the likelihood of influencing behavior. Therefore, this study will analyze the TikTok content and social networks of individuals within various content houses and the official accounts of the content houses in order to determine if there is a significant correlation between in-group homogeneity and social influence/popularity of the content houses. The study will also analyze the relationships between content creators within each house and between houses. I hypothesize that content creators within houses with higher levels of homogeneity will have stronger influence within their network. I hypothesize that content creators with less homogeneity will not have as much influence as those in more homogeneous houses. I also hypothesize that homogeneity will have a positive effect on follower count. My third hypothesis is that houses that have strong homogeneous identities and collaborate with similar houses will also have a stronger influence than houses with more varied creators, content and collaborations.

Theories

With 800 million active users worldwide, TikTok has become a social media force to be reckoned with. According to Oberlo, TikTok has been downloaded more than 2 billion times, making it one of the leading apps on the App Store and Google Play worldwide (Mohsin, 2020). In the first quarter of 2020, the app saw 315 million downloads worldwide, a 58% increase in downloads from the previous quarter. This is also the highest amount of downloads an app has ever seen in a single quarter. Researchers attribute this drastic increase to the Coronavirus pandemic since people were forced to stay home, find new forms of entertainment and build new online communities. 41% of TikTok users are between the ages of 16-24, with 90% of all users using the app multiple times a day. Users on average spend 52 minutes a day on TikTok, and that doesn't include the amount of time content creators spend filming and editing videos on other applications (Ibid.). However, even before the pandemic, the app was steadily gaining popularity in the United States thanks to the creation of "content houses". Content houses are collectives of content creators who may live in a physical house together and collaborate to create videos and reach wider audiences. By working together, they are essentially bringing all of their networks together to create an even larger network and amass more individual and collective social influence.

There are various factors that go into creating a content house, and each house has a different method of recruiting creators for its houses. Some of the houses rely on the similarity attraction effect to create a team that consequently creates more homogeneous content. A great deal of empirical evidence finds that when Social Networking Site (SNS) users discover similarities in demographics, interests, and attitudes they become more attracted to each other

(Kaptein et al., 2014, p. 342). This is an example of the similarity-attraction effect. There are various theories that attempt to explain the similarity effect, for example, "one of the most popular views is based on people's innate desire to be consistent with societal norms and values. This explanation assumes that the discovery of interpersonal similarity leads to the validation of one's own characteristics and views by providing consensus support (Byrne & Clore, 1970)," (Kaptein et al., 2014, p. 343). The validation achieved through interacting with others who are similar, "then leads to a higher perceived appropriateness of one's current beliefs, attitudes, behaviors, and traits," (Ibid.).

Another popular explanation for similarity-attraction is fueled by the positive feelings that one gets from smooth and rewarding interactions, which are more likely to occur when one is communicating with people who are similar than when communicating with those who are dissimilar (Ibid.). While this explanation is similar to the previous one, it specifically focuses on the smooth interactions that are likely to occur with similar others, rather than the positive feelings that stem from having one's own beliefs validated through the interaction. These smooth interactions satisfy a person's "Need to Belong" (Ibid.). Other studies have also found that higher levels of dissimilarity may also lead to higher levels of repulsion (Rosenbaum, 1986).

Kapstein discusses the many types of similarity encountered by people when using SNSs, "Initially, SNSs enabled people to explore and experience "who-similarity": similarity in demographic features such as ethnic background or religious affiliation; "what-similarity": similarity in attitudes, activities, and hobbies. "where-similarity": similarity in location," (2014, p. 344). All of these forms of similarities have shown to increase study participants' evaluations of others (if they find high levels of similarity with the individuals they are evaluating). One study found that North Americans show consistently strong SAE levels in comparison to

Japanese participants (Heine, 2009). Therefore, North American people are more likely to be attracted to, follow, and build communities with those they are similar to. This could be why you see many more content houses being created in the United States than in Asia, the region of TikTok's origin. The collaborations and resulting networks created by content houses could also be an explanation as to why the most influential and followed creators are Americans who reside in content houses or used to be a part of content house collectives. The present study will be analyzing each of the aforementioned forms of similarities between content creator accounts/houses and their correlations with network size and social influence.

Many times, content creators create "personal brands" meaning that they create a persona that produces homogenous content that appeals to their audience. TikTok is a multi-billion dollar business and the content creators are the brands that create products (videos) for their respective audiences. The videos can be categorized in multiple ways, for example, Point-of-view (POV), dance, dark humor, politics, anime, lip-sync, makeup, video games, and much more. Content creators and content houses with stronger, more homogeneous brands will stick to 2-3 different kinds of videos that appeal to their audience. One study proposed that consumers purchase brands in part to construct their self-concepts and, in so doing, form self-brand connections. Therefore, applying this theory, TikTok viewers will consume the videos that help construct and are related/similar to their self-concepts (Escalas, 2005). Because many Tik Tok users and viral creators are teenagers and young adults, there may be more of an appeal for homogeneous content since it reinforces and informs the development of their self-concept.

Another peer-reviewed study investigated how "influencers" and targets of influence differ with respect to their demographic backgrounds and how the perceived group identification, network homogeneity, and size of the social network affected online influence (Malinen &

Koivula, 2020). It found that young and highly educated men were more likely to be targets of influence, but the demographic differences were not as significant with regard to being an influencer. In the present study, an all-boy content house will be studied to see if this theory is reflected in the homogeneity of the content and influence of the house. The study also found that group identification is a significant factor driving online influence. The network homogeneity and the size of the network increased the likelihood of having more social influence and behaving as an influencer,

> Similarly to previous research (Huang, et al., 2013), this study proposes that influencing behavior is easier in homogenous groups. According to the findings, group identification and a sense of community are important for both influencers and targets, and are thus major factors that contribute to online influence. Against expectations, it seems that also the influencers identify with their networks, so their participation in social media networks does not happen only for instrumental reasons. (Ibid)

What does this mean? It means that, many times, social influencers also feel strong bonds with their audiences and the content they create. While creators may become pigeonholed into creating a small set of homogeneous content, they do usually have a connection to the content. They are able to sell the content well because they enjoy the content as much as their audience.

Despite empirical evidence on the success of the similarity-attraction effect in building social networks on various social media platforms, some content houses choose to bring together content creators with their own looks, style, and unique personalities in order to create content that is different and varied. These differing styles reflect the contrasting views of American culture as a melting pot versus a salad bowl. In the salad bowl model, different content creators are brought together, like salad ingredients, but do not conform to create homogeneous content;

each content creator keeps his/her own distinct qualities and style. In the melting pot model heterogeneous creators become more homogeneous, the different elements of their personas and content "melting together" to create a common standard for content. While some houses intend to take on "the salad bowl" culture, prior research has shown that even groups that prize authenticity and avoid homogeneity, can unknowingly settle on a single, coherent style (Ambord, 2020). Therefore, a house may be founded on heterogeneity and attempt to be "authentic", but still ultimately and unknowingly conform to each other and become more homogeneous. The present study will also work to see if houses that are labeled and marketed as heterogeneous actually score low in homogeneity.

Although empirical evidence shows that houses low on homogeneity may have a disadvantage when it comes to building social influence on SNS, TikTok is a remarkably different kind of SNS. Unlike SNS such as Instagram and Facebook, TikTok gives creators various opportunities to become viral. Various types of content can go viral due to TikTok's extremely precise algorithm. The algorithm is able to analyze various aspects of a video: visual content, audio, etc., and sends the video out to users that it believes will enjoy the content. Therefore, it is possible to go viral in various different content categories. TikTok also encourages its users to partake in trends, even if it is not the usual content that they would produce. These factors could actually be advantageous for content creators and houses that create varying content. They have more/various opportunities to go viral and may be able to create larger networks than content creators/houses that are more homogeneous. TikTok also allows users to duet and collaborate with each other, even with users they may not share similarities, ultimately allowing them to gain a wider audience. Although we hypothesize that homogeneous

content creators/houses will most likely have larger networks and more social influence, it is possible that the unique functionalities and algorithm of TikTok will moderate that relationship.

Methods

Study participants: This study will be analyzing the content creators of three different content houses: Hype House, Sway LA, and The House Nobody Asked For. The Hype House, which started in December of 2019, is the most popular TikTok collective comprising some of the most followed TikTokers ever. The group lives in a mansion in Los Angeles and predominantly makes dance and lip-sync videos. The co-ed collective currently includes 16 men and 4 women. Sway LA is a group of male TikTok content creators who often collaborate with members of the Hype House. The boys are known for prank videos, lip-syncing, and dancing. The collective currently has 9 male members. The House that Nobody Asked For is a coed collective of 6 male and 2 female comedic content creators. Although they all make comedy videos, they all have very different personalities and create very different comedic style videos. Instead of conforming and creating very similar content, they all collaborate with each other to highlight each other's personal style and individuality. Each participant, house, and their respective Tik Tok content will be coded by the researchers. The study will also include 3 accounts/TikTok creators that are not associated with any content houses as a comparison.

Procedures: data will be collected through the TikTok channels of each content creator and content house. Researchers will take the last 20 posts of each account and code them with regard to category. Information such as likes, shares, tags, comments, and views will also be collected. Other data collected include follower count (network size), following count, reciprocal relationships between content creators, gender, age, and total account likes.

Statistical analyses: The study will include qualitative and quantitative data. Researchers will use the bimodal method in order to examine both the cliques (content houses) and the actors (content creators) simultaneously. To do this, researchers will construct a "clique participation matrix". In order to analyze social influence, degree centrality with regards to friends (mutual follows) and followers will be tested using T-Tests. Attribute-based scatter plots will be used to visualize the relationship between content homogeneity and social influence.

Results

The hypotheses of the study were as follows: Content creators with homogeneous content are more likely to have more social influence within their network; Content creators with more homogenous content are more likely to have more followers; Content house membership and Homogeneity would have a positive effect on follower count. In order to test the hypothesis, researchers conducted tests in R Studio to get 5 number summaries and centralization scores. They also conducted QAP and ERGM tests in order to find significant effects between the IVs and DVs. The results are as follows:

5 Number Summary for the network w/ and w/out edge attributes:

Network	Size	Density	Components	Diameter	Transitivity
Tik Tok Social Network- no edge attributes	42	0.4552846	3	3	0.7477713
w/ homogeneity edge attribute	42	0.5296167	2	1	1
w/ House edge attribute	42	0.2462253	5	1	1
w/ gender edge attribute	42	0.5063879	3	1	1
w/follower count edge attribute	42	0.5365854	3	1	1

Centralization of the network was calculated through degree: 0.2518293; closeness; 0.182333;

Eigenvector: 0.08906333. Centrality plots can be seen below:
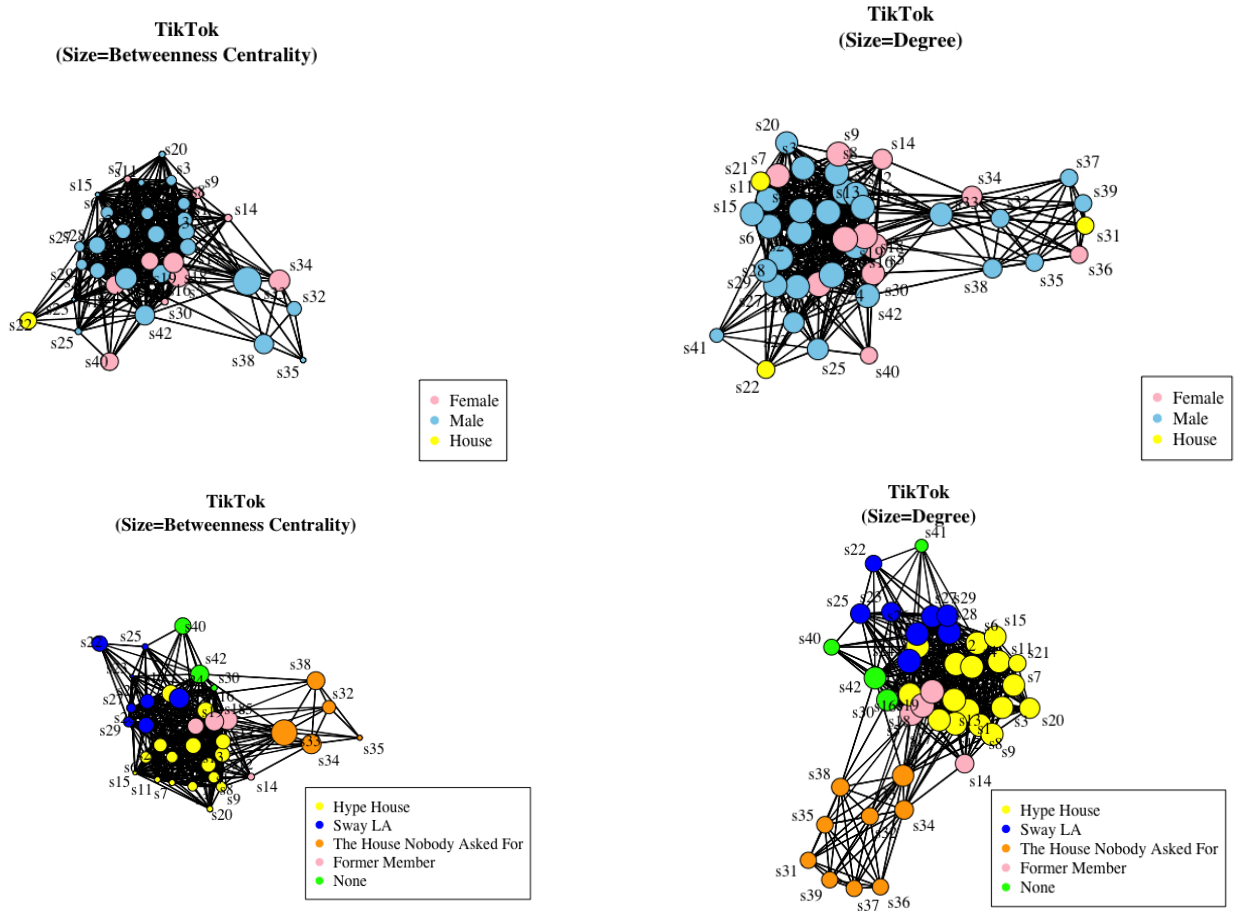
When looking at centrality scores at the node level, the nodes with the highest degree centrality were s5:56; s18:57; s19:56; s24:57. All four of them also happen to have "high" follower counts (above 15 million). These nodes also happen to have the highest closeness centrality. S5, s18 and s19 are all former members of the Hype House. S24 is a member of the Sway House and is in a romantic relationship with s19. S33 scored the highest in-betweenness scores. These scores are reflected in the centrality graphs above. S33 serves as the gateway between the main communities/modules detected using the Spinglass and the Cluster GN algorithms.

Cluster GN

Spinglass Community Detection
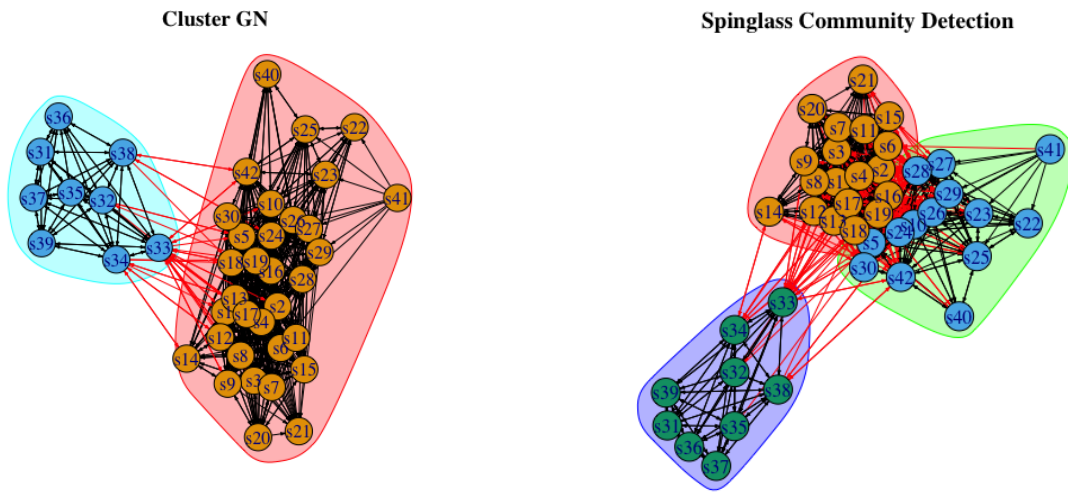
It is interesting to note that while the content houses are physical communities, they are clearly also strong social communities. The Spinglass was able to discern which houses each node was a part of looking at only the social ties that bind them together. It also correctly identified the houses that former members used to be a part of. However, the Cluster GN shows that two of the communities are more interconnected and form a module. The main difference (observed by researchers) between the clusters is the level of homogeneity of the content creators within it. The researchers conducted QAP and ERGM tests in order to discern whether or not homogeneity has a significant effect on the social ties that form between content houses.

QAPs were conducted in order to find total effects of vertex attributes on the network.

<u>Gender Gcor and QAP</u>

```
gcor(adnet, T.sex)
[1] 0.09327767
QAP Test Results

Estimated p-values:
        p(f(perm) >= f(d)): 0.055
        p(f(perm) <= f(d)): 0.949
```

House Gcor and QAP

```
[1] 0.5141418
> qaptest(list(adnet, T.house), gcor, g1=1, g2=2, reps=1000)

QAP Test Results

Estimated p-values:
        p(f(perm) >= f(d)): 0
        p(f(perm) <= f(d)): 1
```

Homogeneity Gcor and QAP

```
gcor(adnet, T.Homo)
[1] 0.02887418
QAP Test Results

Estimated p-values:
        p(f(perm) >= f(d)): 0.217
        p(f(perm) <= f(d)): 0.798
```

Follower Gcor and QAP

```
gcor(adnet, T.follower)
[1] 0.0007414737
QAP Test Results

Estimated p-values:
        p(f(perm) >= f(d)): 0.45
        p(f(perm) <= f(d)): 0.558
```

QAPs and GCores conducted found that: gender has a positive, slightly significant, weak effect on the network: Pearson's R= 0.09327767; content house has a positive, significant, moderately strong effect on the network: Pearson's R= 0.5141418; homogeneity has a positive, weak, insignificant effect on the network; follower count also has a positive, weak, insignificant effect on the network.

The researchers then conducted ERGMs to find the possibility that social ties would form due to shared attributes. The ERGM conducted on the network without edge attributes found that Content House and Gender have an effect on the likelihood that ties will form: Content house has a strong, positive, significant relationship on the ties formed in the network: Pearson's R: 2.87088. This result suggests that being of the same content house makes it much more likely that social ties will form within the network. Gender had a slightly significant, weak, positive effect on the ties formed in the network: Pearson's R: 0.26957. This result suggests that being of the same gender makes it slightly more likely that a tie will be formed within the network. ERGMS were also conducted on the networks formed using edge attributes. An ERGM conducted with Homogeneity as the DV found that Follower count (the IV) has a significant, strong, positive effect on the likelihood of ties being formed through homogeneity: Pearson's R=0.9339. This result suggests that having similar amounts of followers increases the likelihood that ties will be formed based on homogeneity. The resulting graph can be seen below:

Tik Tok Directed Network Homogeneity as Edges

- low
- moderate
- high
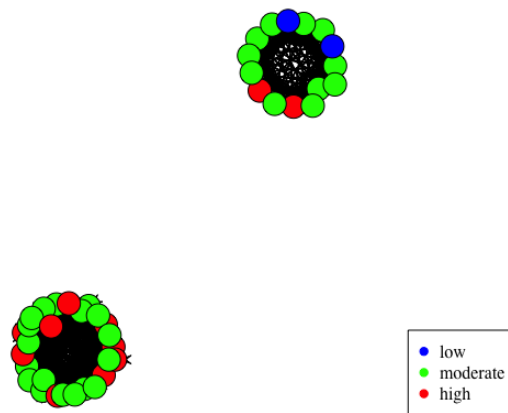
The bottom left network has far more nodes with "moderate" to "high" follower counts, and they are tied together by their shared homogeneous attribute. It is interesting to note that none of the homogeneous content creators have a "low" follower count.

An ERGM using follower count as the DV resulted in no significant effects. And ERGM conducted with sex as the DV found that Content House has a significant, moderately strong, positive effect: Pearson's R=0.4571. This suggests that being in the same content house is more

likely to produce social ties between nodes of the same gender. The opposite was also found to be true. Being of the same gender makes it more likely that ties will form with content house being the shared attribute. This result may be because all of the members of Sway LA are men and all of the former members in the study happen to be women.

Discussion

Content creators with homogeneous content had higher centrality scores, social influence, and follower counts than those who did not create homogeneous content. However, the QAPs and ERGMs did not show support for homogeneity's effect on follower count, therefore, further research must be conducted. Content house membership did not show a significant effect on follower count, therefore, my third hypothesis is also not supported. Future research should also include weighted edges defined by relationships. Researchers observed that two of the communities were more interconnected, possibly because of romantic relationships between members of the two groups. It would be interesting to analyze the effects that romantic relationships have on the strength of the communities and the ties within/between. It would also be interesting to investigate whether or not romantic relationships between members of the network increase their own follower counts and social influence.

Limitations of the study include small sample size, convenience sampling, time, and funding. Future studies should have much larger, sample sizes with a randomly sampled variety of content houses and non-members to establish generalizability. Researchers in future studies should create networks for each house, in order to see their individual effects on the social ties that are formed. Future studies should look into the mediating/moderating effects that some of the variables may have on ties.

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