Moderating Role of Member Identification on the Relationship Between Network Centrality and Opinion Leadership / Satisfaction

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This research examines the friendship network (n=64) of an ethnic social club. Using multiple regression quadratic assignment procedure (QAP), we find moderating effects of member identification on the relationship between network centrality and opinion leadership, as well as, the relationship between network centrality and club satisfaction. More specifically, we find that the relationship between centrality and opinion leadership / satisfaction to be positive for those with high member identification, but not for those with low member identification.

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Opinion leaders are defined as individuals who influence the purchasing behavior of other consumers in a specific product domain (Flynn, Goldsmith, and Eastman 1996). Opinion leaders play a critical role in diffusing information across social systems (Chaney 2001). Burt (1999) posited that opinion leaders need to be socially connected inside a network, not isolated, to effectively spread information. However, we believe that the degree to which individuals become opinion leaders is not only tied to the extent which they are socially connected, but also the level in which they identify with their network.

Member identification is the degree to which one feels belongingness to an organization of which the person is a member (Bhattacharya, Rao, and Glynn 1995). When a person identifies with a club, he/she tends to define him/herself in terms of the club (Mael and Ashforth 1992). We believe that a person with high member identification (HMI) is likely to accrue greater benefits from being in a central position than a person with low member identification (LMI). As HMIs are passionate about their social club, they are likely to be recognized as the face of the club, thus having higher likelihood that they become strong influencers.

Furthermore, we test whether network centrality predicts satisfaction with the club, and whether member identification also acts as a moderator to this relationship.

**H1**: Network centrality is positively related to opinion leadership.

**H2**: Network centrality is positively related to club satisfaction.

**H3**: The relationship between network centrality and opinion leadership is higher for HMI than LMI.

**H4**: The relationship between network centrality and club satisfaction is higher for HMI than LMI.

**Methodology**

*Participants & Procedure.* In total, we collected data from 64 of 125 (response rate, 51.2%) students who were members of a university ethnic social club. To be a member of the club, one was required to purchase a membership at any point in the academic year. Network data were collected using the roster method (Wasserman and Faust 1997). In this method, we provided the students with a university ethnic social club. To be a member of the club, one was required to purchase a membership at any point in the academic year.

*Measures.* We used the friendship matrix (64x64) into the network program Ucinet (Borgatti, Everett, and Freeman 1999) to obtain differences in closeness centrality scores. Closeness centrality measures how many nodes on average it takes for an individual to reach everyone else in the network. Individual with high closeness centrality has the shortest path to all other nodes (Freeman 1979).

We obtained differences in centrality scores for the QAP regression analysis (non-parametric technique) to overcome the issues of non-independence of data points. Using ordinary least squares (OLS) is inappropriate as network data do not suffice the assumptions of independence of observation (e.g. Gibbons and Olk 2003). We interpret the outcomes of QAP analysis as having a higher (lower) closeness centrality score compared to others in the network.
For other measures, we used established scales from previous literatures. We assessed opinion leadership using a 6-item scale developed by Flynn et al. (1996). We assessed satisfaction using a 6-item scale developed by Baldwin, Bedell, and Johnson (1997). We measured member identification using a 6-item scale developed by Mael and Ashforth (1992). Lastly, we used gender as control in all of our analysis as studies have shown differences in gender effects in networks (e.g. Burt 1992).

Data Analysis. To test our hypothesized moderation of member identification, we used a median split (m=4.33) to divide the data into two groups. Data from high member identification (HMI, n=33) and from low member identification (LMI, n=31) were analyzed separately using QAP network regression analysis to test the relationship between closeness centrality and opinion leadership / club satisfaction. The use of two-group comparison using QAP is not uncommon (Borgatti and Cross 2003), and is used to identify possible moderators.

Results
All of our four hypotheses were supported by our data. Closeness centrality was positively related to opinion leadership ($\alpha=7.725$, $p<0.01$, $r^2=15.8\%$). Closeness centrality was also positively related to club satisfaction ($\alpha=6.83$, $p<0.01$, $r^2=11.8\%$). As for our test for moderation, we found full support for hypotheses 3 and 4. For the HMI group, closeness centrality was positive and significant in predicting opinion leadership ($\alpha=4.741$, $p<0.05$, $r^2=14.0\%$) and club satisfaction ($\alpha=6.639$, $p<0.01$, $r^2=18.1\%$). However, for the LMI group, the regression coefficient was not significant ($p>.05$, ns). The control variable gender was not significant.

Discussion
This study has few limitations. First, we acknowledge that the extent of the individuals’ network reach beyond the social club which can influence the level of opinion leadership and satisfaction with the club. However, we feel that using the club network was appropriate as our dependent variables are likely to depend heavily on the network itself. Second, scholars have noted that response rate of under 50% would deem the network data to be unreliable and 70% to be desirable (Burt and Minor 1983; Scott 2000). Because we were only able to obtain 51.2% of the entire network, the network measure of closeness centrality is inevitably affected by the non-response. Thus, future research should devote to examining network with higher response rates.

The research can be extended in several ways. First, a longitudinal study would be appropriate to examine the development of friendship networks over time with respect to the variables mentioned in this study. In addition, this research can be enhanced by examining other structural dimensions (e.g. betweenness centrality, structural holes), and how it plays a role in predicting outcomes.

Albeit preliminary, this research provides contribution to the opinion leadership and the satisfaction literature. We find that in social clubs, member identification with the club plays an important role in identifying effective opinion leaders. Therefore, marketers should target those in central positions who identify strongly with their social club. Additionally, this research also shows that individual’s who identify with their club garner higher satisfaction as a result of being in a central position.

References