The Spread of Civic Engagement: A Social Network Analysis of Muslim American Adolescents

Yeasle Lee

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ABSTRACT

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Social network data were collected from Muslim American adolescents before and after a youth interscholastic tournament to further our understanding of the social nature of civic engagement. Our primary questions were the following: How did the participants' civic intentionality change over time? Could civic intentionality be predicted by religiosity and different types of network centrality? Most importantly, could civic intentionality spread through ties in two different types of network as a social contagion? We found that only internal religiosity and gender significantly predicted future intention of civic engagement. Other predictor variables, including centrality measures (degree, eigenvector, and betweenness) and organizational (as indicated by the frequency of mosque visits) and non-organizational (as indicated by the frequency of private religious activities) religiosity were not significantly associated with civic intentionality. No evidence for the spread of civic intentionality was found in either the friendship or politics network. We suggest that an examination of the interpersonal influence of civic engagement may provide a potential mechanism that links religiosity, social networks, and civic engagement. The implications for our understanding of the social networks of underrepresented minority youth, the limitations of the study, and considerations for future research are discussed.

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Introduction

The heterogeneity of religion, language, race, and ethnicity among immigrants to the U.S. began to grow with the 1965 Immigration Act, which allowed more immigrants from different parts of the world with various religious backgrounds into the country (Peek, 2005). Multiple social, political, and economic factors, including those related to wars in the Middle East, have prompted greater flow of refugees and immigrants from all over the world, moderately increasing the religious diversity of the U.S. (Chafetz & Ebaugh, 2000), in particular the representation of the religion of Islam. Pew Research Center (2017) estimated that there were 3.45 million Muslims residing in the U.S., making up approximately 1.1% of its population. The same analysis of census statistics indicated that the share of the Muslim population would double by 2050, making it 2.1% of the U.S. population. If this prediction holds, Muslims will become the second-largest religious group in the country, passing Jews (Leonard, 2003).

Research on Muslim Americans rose dramatically following the terrorist attacks on September 11, 2001. Study contextualizing the experiences of Muslim Americans continues to grow, but it remains limited in scope, restricting itself to the challenges Muslims face as they adapt to American society and its values. These challenges include identity and acculturation issues (Sirin & Fine, 2007), feelings of discrimination (Lowe, Tineo, & Young, 2018), and gender inequality (Hu, Pazaki, Al-Qubbaj, & Cutler, 2009). To gain a fuller picture of the world of Muslim Americans and how they situate themselves in a pluralistic and globalizing America, more empirical studies using interdisciplinary approaches are required to determine the connections among the disparate aspects of the Muslim American experience.

One significant measure of integration into American society is civic engagement (Putnam 2000, 2007; Terriquez, 2012); this refers to what individuals who desire to alter social

life and to support a democratic society do to carry out those desires (Sánchez-Jankowski, 2002). Civic engagement is measured by individuals' involvement in society across multiple realms. A number of studies have identified a strong positive association between the practice of religion and civic engagement (Lam, 2002; Park & Smith, 2000; Putnam & Campbell, 2010). This relationship is found across multiple religious groups but identifying the key mechanisms and factors at work remains an ongoing process. In recent years, studies have suggested that religious social networks may play a role in civic engagement (Lewis, MacGregor, & Putnam, 2013). This link should not be a surprise, thanks to the social nature of both civic engagement and participation in a religious congregation.

This report expands the literature by examining the social nature of civic engagement in religiously based social networks among adolescents. We quantitatively explored how a participant's civic engagement is shaped in the context of that person's social relationships. First, we examined whether the civic intentionality of study participants changed over time. Second, we tested the associations between civic intentionality and religiosity in the participants. Third, we examined the association between civic intentionality and network centrality. Finally, we tested whether the intention of a Muslim American adolescent to become more involved in civic engagement could be influenced by her or his peers over the course of a youth tournament, while controlling for other factors of civic engagement. Using a social network dataset describing an understudied population, the study determined whether patterns of civic engagement could spread through social networks and influence civic engagement.

Youth Civic Engagement

Civic engagement is reflected in collective action taken to address public concerns (Checkoway, 2009). It entails robust citizen effort, with a shift from being simple citizens to

civic agencies that engage in public work and civic activities. Civic engagement extends beyond the strict definition of formal political activity such as voting, contacting officials, or attending rallies. Particularly with respect to youth participation, the idea of civic engagement must broaden: most youth are not old enough to vote in elections. Studies suggest that youth civic engagement is increasingly performed through social network sites, not direct contact (Chan & Guo, 2013). Thus, the study of youth civic engagement requires different research methods and tools. This field is relatively new. Interest in this area was spurred by the work of Putnam (2000), who reported the decline of the civic involvement among younger U.S. residents. Since the publication of his work, many social and political scientists have enriched the field, providing examinations of youth civic engagement with new, different perspectives. One of these is positive youth development, an approach that understands development as promoted by both internal and external assets and emphasizes the need for every available resource in youths' environment (e.g., families, schools, communities) to be mustered to promote development, a critical factor in the encouragement of civic engagement (Sherrod, Torney-Purta, & Flanagan, 2010). Such approaches have created an understanding of the complexity and multifaceted nature of civic engagement. Numerous factors influence levels of civic engagement, one of the most commonly studied of which is religion.

The Role of Religion in Civic Engagement

A substantial literature has examined the relationship between religiosity and civic engagement. For instance, Lam (2002) examined the relationship between the dimensions of religiosity (participatory, devotional, affiliative, and theological) and civic engagement as a form of voluntary association participation; they found that each of the four dimensions substantially influenced civic engagement. Similarly, Park and Smith (2002) showed that participation in

church activity and high church attendance are the strongest and the most consistent predictors of non-church-related voluntarism, controlling for background factors. Other scholars who examined the relationship between church involvement and civic participation also found a positive association between them (Huge & Yang, 1994; Verba, Schlozman, & Brady 1995; Wilson & Musick, 1997). The association between religions and voluntary organizations is generally found to be positive, although variations according to religious denomination have been found. For example, Ruiter and De Graaf (2006) found that while all religious volunteering spills over to secular organizations, the spillover effect was stronger for Catholics than nonreligious and Protestants. Others have found that Protestants participate more in secular voluntary associations than Catholics do (Petersen & Lee, 19676; Lazerwitz, 1962; Hoge, Zech, McNamara, & Donahue, 1998). Additionally, Wright and Hyman (1958) found that Jewish participants had the highest rate of membership in volunteer associations, followed by Catholics and Protestants.

Researchers have moved beyond simply establishing the relationship between religiosity and civic engagement to seek underlying mechanisms for it. However, the findings for why religious people are more civically and socially engaged are limited and inconsistent. In broad strokes, two sets of mechanisms have been suggested. First, the personal aspect of religiosity, including religious beliefs and cognitive expression, has been put forward as an explanation. Because many major religions consider altruism to be part of religious practice, this feature may prompt civic engagement. The link between religiosity and civic engagement may be explained by internalization of selflessness and devotion to a greater good (Lewis et al., 2013). Another aspect of religiosity in an individual is that person's cognitive experience. Loveland, Sikkink, Myers, and Radcliff (2005) suggested that the link between religion and civic engagement is

influenced by private prayer. Praying, on this view, connects the supplicant to the needs of others, increasing sympathy, which leads to more civic involvement. Their findings support an association between the frequency of prayer and membership in multiple civic organizations, although they are qualified by the lack of quantifiable data on the prayer contents (do they concern others' needs).

Another set of possible mechanisms to explain the impact of religion on civic engagement is found in the congregations: their leaders, membership, and the religion-based social connections found there. Religious congregations may be perceived as friendly environments where adherents can befriend larger and more intimate networks than general social resources. Putnam and Campbell (2010) found that religious Americans are more likely to engage in volunteerism, community activities, voting, and donating than their nonreligious counterparts. They contended that participation in religious activities provides access to social networks, which in turn facilitate civic engagement. Similarly, Lewis et al. (2013) conducted an empirical study using survey data and found that religious social networks predicted five of eight civic engagement behaviors when non-religious social resources (such as overall sociability) were controlled. Using an ecological framework, Farmer (2006) found that faith-based social capital, at the macro-level, and friendship diversity, at the mezzo-level, were significantly associated with indicators of civic engagement. These findings suggest the potential importance of social networks in civic engagement.

The Role of Social Networks in Civic Engagement

A social network is a structure of actors, also called nodes or vertices, and their interconnections (Knoke & Yang, 2008). The main goal of network analysis is measuring and representing social structures, indicating why they occur, and examining the consequences. We

here take a network-based approach to investigate youth civic engagement based on three central assumptions. First, the social relations between actors are more important for understanding phenomena than the attributes of the actors themselves, such as their socioeconomic characteristics. Many attributes are constant over time, but structural relations are temporal and context-sensitive. Thus, they can capture behavioral differences and sources of action, which may be missed by exclusive attention to static variables. Second, social networks influence beliefs, perceptions, and actions through the interactions among actors. Direct and indirect ties expose individuals to new, potentially useful resources. Third, structural relations are dynamic and reflect changing interactions among entities. Thus, network analysis is a useful tool, which incorporates both entities and structures to investigate changes at different levels over time.

It is only natural that social scientists would adopt network analysis to investigate the relationship between social networks and civic engagement. The works of Putnam (1993, 2000) have gained the most attention among those who have pursued this method in this context. He isolated the effects of social networks on collective benefits, specifically suggesting that social networks provide individuals with social capital, which in turn leads to larger voluntary associations by facilitating community cooperation. Thus, social capital refers to "features of social organizations, such as networks, norms, and trust, that facilitate action and cooperation for mutual benefit" (Putnam 1993, pp. 35–36). This is quantitatively investigated: Huang, Whang, and Xuchuan (2016) examined the role that social capital plays in civic engagement, finding that social capital developed through membership in social organizations strongly predicts civic engagement activities. Multiple understandings of social capital exist, with variance in its concept and mechanisms of operation. However, all of these recognize that social capital's origins are in the structural relations among actors and that its value is in its outcomes (Coleman,

1988). As the phenomenon of interest in our study is civic engagement, we are interested here in the mobilization of social capital for public rather than private action.

The Spread of Civic Engagement

If social networks, as a form of social capital, encourage participation in civic behaviors, is it possible that the social network could influence civic intentionality as well? Simply put, can civic intentionality spread from person to person through ties? Previous analyses of social networks suggest a contagion effect of diverse social phenomena, including divorce (McDermott, Fowler, & Christakis, 2013), obesity (Christakis & Fowler, 2007), emotions (Coviello et al., 2014), sleep loss (Mednick, Christakis, & Fowler, 2010), cooperative behavior (Fowler & Christakis, 2010), and taste in music (Lewis, Gonzalez, & Kaufman, 2012). Two main potential mechanisms have been suggested for the spread of outcome variables. First, friends are already similar, as a result of social selection or homophily (the tendency to befriend or like individuals who share common characteristics). Second, friends become more similar through social/peer influence or diffusion (the tendency for characteristics or behaviors to spread through social ties). It is not easy to separate the effects from each other, especially when the studies are observational. However, utilizing longitudinal data for actors' ties and attributes (including civic intentionality) can help distinguishing interpersonal influences (Christakis & Fowler, 2013). Thus, in our study we use network data, civic intentionality, and otherer covariates in two time points to examine person-to-person spread in observed social ties.

Overview of This Study

In this study, we explored the social nature of youth civic engagement by examining its associations with religion and networks and by investigating potential contagion effects. The participants were Muslim American high school students who competed in an interscholastic

tournament. The participants completed a survey with items on two types of social network: (friendship and political), demographics, religiosity, and civic engagement intentionality at two time points: before and after the tournament. First, we examined whether the average civic intentionality of the participants changed over time. We expected that the overall level of civic intentionality would increase after the tournament because it would function as an additional external resource that promotes civic engagement. Second, we examined the relationship between multiple dimensions of religiosity and civic intentionality. As suggested by Driskell, Lyon, and Embry (2008), religious attendance alone is an insufficient indicator of religiosity, although many studies have used it as a primary indicator. Thus, to represent participant's religiosity, we include a five-item measure of religiosity reflecting three dimensions of it. We hypothesized that each item would independently predict civic intentionality, replicating previous research on the link between religion and civic engagement. Third, we examined the association between civic intentionality and network centrality. Prior work has suggested that social networks create social capital, which in turn encourages civic engagement. We used network centrality as an indicator of social capital because social capital is resource embedded in social structures and having a central position in a network would allow greater access to resources through contact with others (Lin, 2001). Thus, we expected that higher network centrality scores would be positively associated with civic intentionality. We also expected that this association would be stronger in political networks, in which participants identified alters (ego-perceived friends) with whom they discussed political affairs. Finally, we tested whether a Muslim American adolescent's intention to become more involved in civic engagement could be influenced by the intention of her or his peers during the youth tournament while controlling the other factors of civic engagement. Based on the modelling approach used by Christakis and

Fowler (2007), the spread of civic intentionality was measured using a time-lagged dependent variable and independent variables. The civic intentionality of the ego was examined after the tournament as a function of various attributes, including age, sex, parental income and level of education, and centrality; baseline civic intentionality; and the alter's civic intentionality at both times. Assuming an independent working correlation structure, we used generalized estimating equations (GEEs) to account for multiple observations of ego–alter pairs across assessments. We expected to find a significant coefficient for the alter's civic intentionality in the follow-up assessment, which would indicate that the ego's civic intentionality was influenced by the alter (contagion) or that the experience at the tournament changed the civic intentionality of the ego and the alter at the same time.

Methods

Participants

All New York City residents participating in the 2018 Muslim Interscholastic Tournament (MIST) for high school students were invited by email to participate in the study. Of the 659 competitors, 188 completed the baseline assessment prior to the tournament. The participants who self-identified as non-Muslim were excluded from the analyses. For the follow-up assessment, only those participants who had completed the baseline assessment were invited, and 127 completed it. After the inclusion criteria (Muslim, participation in MIST, and complete survey response) were applied, 112 participants were included in the analyses (13–18 years old, M_{age} = 16.1 years, Mdn_{age} = 16 years, SD = 1.2; 83 women, 29 men; 63 South Asian, 19 South East Asian, 18 Arab/Middle Eastern, 4 Black or African-American, 3 Multiracial, 2 White, 2 Other). See Table 1 for the breakdown of the participants' sociodemographic characteristics.

Table 1. Sociodemographic characteristics of participants

Variable	%	N
Gender		
Female	25.9	83
Male	74.1	29
Race/ethnicity		
African	0.9	1
Arab/ Middle Eastern	16.1	18
South Asian	56.2	63
South East Asian	16.9	19
Black or African-American	3.6	4
White, Caucasian; not Hispanic	1.8	2
Biracial/Mixed	2.7	3
Other	1.8	2
Grade		
8th grade	1.8	2
9th grade	10.7	12
10th grade	20.5	23
11th grade	30.4	34
12th grade	36.6	41
Parents' highest education level		
Did not complete high school	5.4	6
High school diploma	20.5	23
Two-year college degree	12.5	14
Four-year college degree	29.5	33
Master's degree	24.1	27
Ph.D. or professional degree (M.D., M.B.A., J.D.)	8.0	9

Procedure

The study used data collected from the competitors in the regional MIST in New York City. Data collection began in February 2018, approximately one month prior to the beginning of the tournament. Using the MIST student email listserv, we sent a link to the online baseline survey. Before they took the survey, the participants were asked to complete an assent form, which required parental consent, to participate in the study. The survey included measures of demographic information, current high school, political and friendship social networks, civic behaviors, Muslim identities, religiosity, discrimination, academic interests, and a series of

psychological queries. The participants were not assigned to any experimental condition, and all completed the same set of survey measures.

The tournament took place on March 16–18, 2018, at Columbia University. One week after the end of the tournament, the participants who had completed the baseline survey were invited by email to take the follow-up survey. The post-tournament assessment included the same measures as the baseline assessment, including measures of social network, psychology, and behavior.

Measures

Social network. Using the nominalist approach (Laumann, Marsden, & Prensky, 1989; Wasserman & Faust, 1994), we asked each participant to list up to six individuals from the official roster of tournament attendees as friends. Using the closed network of MIST participants was appropriate because the study was examining the potential influence of attending the tournament. The participants were also asked to provide a rating of how close they felt to each of the listed friends, from 1 (not close) to 5 (extremely close). Students' friendship networks were measured both before and after tournament, creating both valued (non-binary) and directed (asymmetric) network data for both time points. Student's political networks were assessed. We asked each participant to nominate up to six individuals from among their fellow MIST participants who they talk to about politics. The frequency of political conversation was measured: the participants indicated how often they spoke to each person about politics (from 1 = rarely or never to 5 = very often). Students' politics networks were also measured both pre- and post-tournament, creating valued and directed network data for both time points.

Network centrality. Centrality measures quantify an individual's prominence by examining the structural relations among everyone in a complete network (Knoke & Yang,

2008). From the measured network data, we calculated degree centrality by simply computing the total number of ties directly received or given by each participant. This is calculated by adding the number of nominations made by an individual (out-degree) and the number of nominations received by that individual (in-degree). The result is the measure of participant's level of involvement or activity in the network (Prell, 2011). Eigenvector centrality is a refined version of degree centrality (Borgatti, 1995), calculated as the sum of each participant's connections to others, weighted by degree centrality. Thus, the calculation of eigenvector centrality takes into consideration the number of ties each participant has and how many ties each participant's immediately adjacent neighbor has. To have high eigenvector centrality, a person must be connected to someone who is well-connected in the network. Betweenness centrality measures how often each participant rests on the geodesic (the shortest path) that links two others together in the network (Prell, 2011). Individuals with higher betweenness centrality are between many pairs in the network and can control the flow of information.

Civic (engagement) intentionality. Items chosen from the index of the National Civic and Political Engagement of Young People Survey (Portney & O'Leary, 2007) assessed the participants' future intentions of civic engagement. First, they selected all of the civic and political organizations/programs in which they hope to be involved in over the next 12 months from a list of 12. This list included a variety of organizations/programs related to academia, community, politics, media, culture, sports, religion, and the arts. Second, participants selected all of the civic and political activities that they wanted to engage in from a list of. These activities included diverse forms of political expression (attending rallies, contacting politicians, posting on social media, donating to a party/group of interest, signing petitions,

boycotting/buying certain goods, and praying). This dual-part measure was found to be comparatively reliable (24 items; $\alpha = .83$).

Religiosity. A modified version of the Duke University Religion Index (DUREL; Koenig & Büssing, 2010) was used to measure organizational, non-organizational, and intrinsic religiosity. The 5-item scale captured three dimensions of religious involvement: organizational, non-organizational, and intrinsic or subjective religiosity. Organizational religiosity activity (ORA) was measured with a single question determining how often participants go to a mosque or Islamic center, coded from 1 (never) to 6 (more than once a week). Non-organizational religious activity (NORA) was measured with a single question determining how often participants spend time in private religious activities such as praying, coded from 1 (rarely or never) to 6 (more than once a day). Intrinsic religiosity (IR) was measured by three items regarding the presence of God in the participant's life, the degree of the participant's religious approach to life, and whether the participant carried religion over into other domains of life, coded from 1 (definitely not true) to 5 (definitely true of me). See Appendix A for the original items of the DUREL.

Results

Network Statistics

Friendship network. In all, data from 112 participants were included in the study. One week before the tournament, 109 students nominated as friends 1 or more attendees at MIST, and 3 students indicated that they had no friends among the attendees. These responses created a valued, directed pre-tournament friendship network of 319 students with 454 ties among them. One week after the tournament, 108 students again nominated friends from among the attendees of the tournament, and 4 students did not nominate anyone as friends. These responses created a

valued, directed post-tournament friendship network of 326 students with 432 ties among them. Figure 1 shows the friendship networks at both time points.

Density, which is described by the proportion of edges that actually exist within a network of all those that potentially could exist between every pair of nodes suggests the degree of interconnection in a network is. Friendship network at both time points had a density of .004, which suggests that the networks were sparsely connected. The average degrees (total number of direct connections an individual has to all other actors in a social network) of the friendship network at Time 1 (= 2.85) and 2 (= 2.65) suggest that every participant had an average of 2–3 friendship connections within the network. The average tie strength of 4.14 at both time points in friendship network suggests that participants felt very close to other students who they considered to be their friends. The transitivity score for Time 1 (= 0.27) is slightly higher than that for Time 2 (= 0.23), suggesting that the probability that adjacent vertices of a given vertex are connected is higher in Time 1. The reciprocity of Time 1 suggests that the proportion of edges that are symmetrical/mutual reaches 16% of the entire network. Likewise, the reciprocity score of Time 2 was 0.15, suggesting that 15% of all ties were reciprocated within the network. The assortativity or "preferential attachment" based on node's high schools of friendship network is generally high; this factor was slightly higher at Time 1 (= 0.85) than at Time 2 (= 0.77). This score ranged from -1 (where individuals actively avoid similar individuals) to 1 (where individuals attach only to similar individuals). The visualization of the friendship networks suggests that the participants made friends preferentially with the attendees from their high school and their gender. Degree assortativity was measured for both Times 1 (= 0.13) and 2 (= 0.10), but near zero scores indicated no overall pattern for preferential attachment among participants with high degrees centrality.

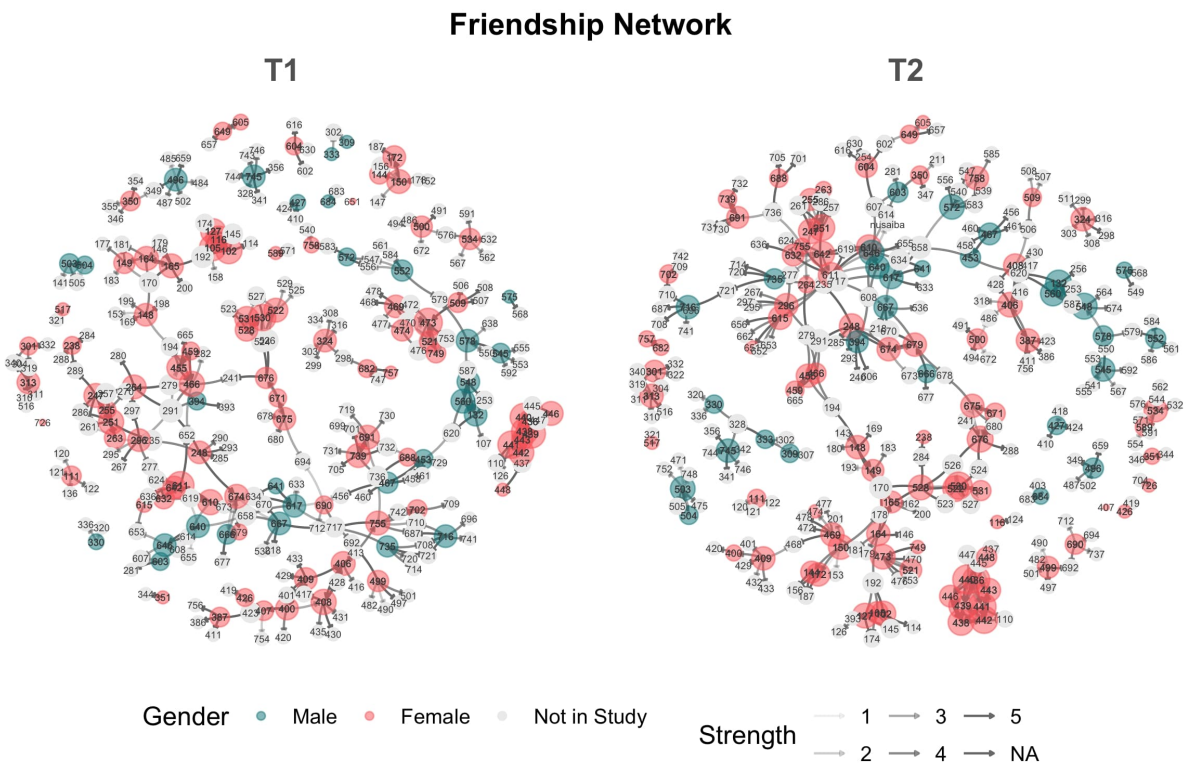

Figure 1. MIST friendship network
The directed, weighted friendship network at Time 1 (before the tournament) and Time 2 (after the tournament). Network data were provided by the 112 participants who completed measures from both time points. Color indicates gender. Arrow transparency represents friendship closeness, ranging from 1 (not close) to 5 (extremely close), with darker lines denoting stronger friendship between the persons.

Politics network. As with the friendship network, following the inclusion criteria, 112 participants were included in the study, among all the participants who completed the survey at both time points. One week prior to the tournament, 86 students nominated one or more attendees of MIST with whom they talked about politics (26 participants indicated no one with whom they engaged in political discussion with among the attendees). Analysis of the responses created a valued, directed pre-tournament friendship network of 220 students, with 208 ties between them. One week after the tournament, 81 students nominated one or more attendees of the tournament with whom they discussed politics (31 students did not state any such connection). The Time 2 responses created a valued, directed post-tournament friendship

network of 208 students, with 183 ties between them. See Figure 2 for the visualization of the political networks at both time points.

The overall density of this network was identical for both Times 1 and 2, namely, 0.04, meaning that 4% of all possible ties exist in this particular network. The average degrees of the politics network at Times 1 (= 1.89) and 2 (= 1.76) suggest that the average participant has 1–2 connections for political conversation within the network. The average tie strength for both time points was below 3. The transitivity score for Time 1 (= 0.25) was slightly lower than that for Time 2 (= 0.26). The proportion of all possible triangles in the network that were closed in Time 1 was is smaller than Time 2. At Time 1, the proportion of edges that were symmetrical were 13% of the entire network. For Time 2, 11% of all ties were reciprocated. The assortativity related to each node's high school within the politics network was exceptionally high. The data for Times 1 (= 0.85) and 2 (= 0.90) suggest that participants prefer talking about politics with other students from their school. The visualization of politics networks suggests that participants preferentially made friends with attendees who were from their high school and of the same gender as well. However, the low degree of assortativity at Time 1 (0.06) and the negative assortativity at Time 2 (= -0.07) indicate that there is no particular pattern of homophily among participants with a high degree centrality.

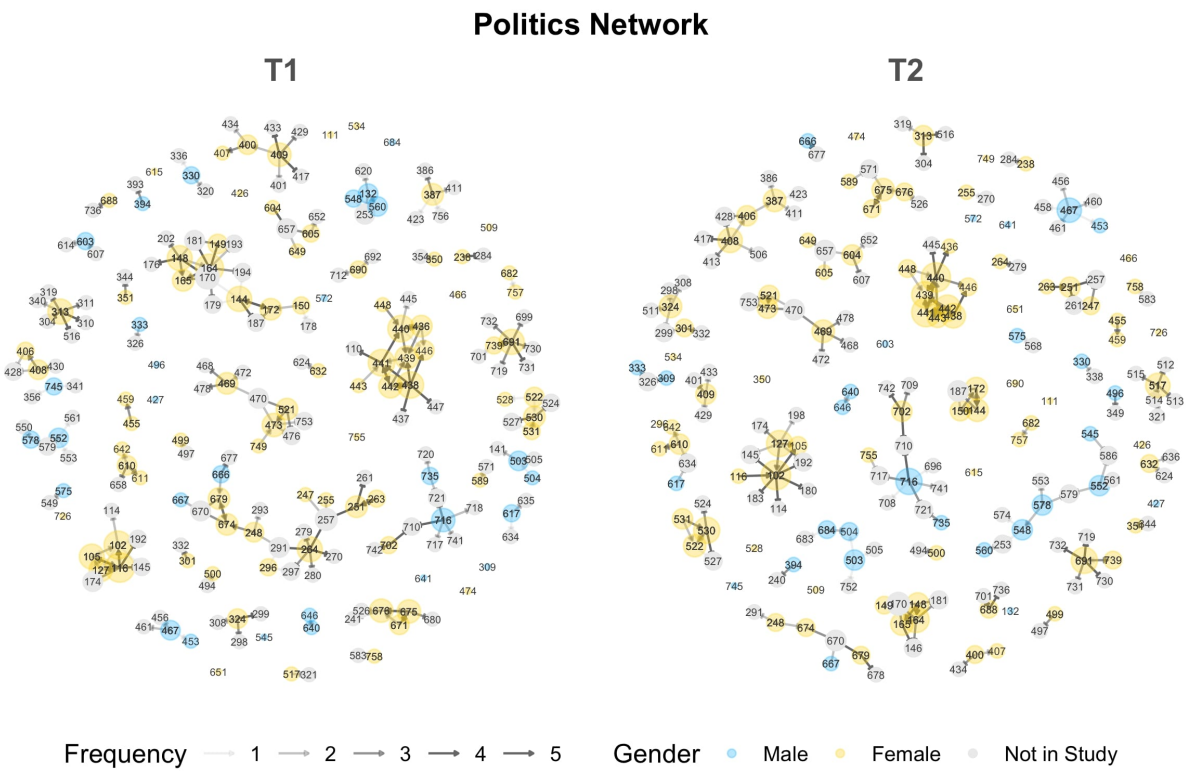

Figure 2. MIST political network
Directed, weighted political discussion networks at Times 1 (before the tournament) and 2 (after the tournament). Network data were provided by 112 participants. The color of the circles indicates gender. Line transparency represents the frequency of political conversation with the given person, with ratings ranging from 1 (rarely or never) to 5 (very often), with darker lines denoting more frequent political discussion between the persons.

Table 2. Network statistics by network type and time point

Network	*N*	*E*	*Iso*	*Deg*	*Str/Frq*	*Den*	*Trans*	*Recip*	*Assort*
Friendship									
Time 1	319	454	3	2.85	4.14	.004	.27	.16	.85
Time 2	326	432	4	2.65	4.14	.004	.23	.15	.77
Politics									
Time 1	220	208	26	1.89	2.48	.004	.25	.13	.85
Time 2	208	183	31	1.76	2.63	.004	.26	.11	.90

Note. Time 1 = before the tournament (baseline); Time 2 = after the tournament (follow-up); *N* = number of nodes (actors) in network; *E* = number of edges; *Iso* = number of isolates; *Deg* = average degree; *Str* = average strength/frequency of ties; *Den* = graph density; *Trans* = global clustering coefficient; *Recip* = reciprocity; *Assort* = assortativity (preferential attachment based on high school attended).

Preliminary Analyses

A dependent t-test was run on a sample of 112 participants of MIST to determine whether a statistically significant mean difference could be found in civic intentionality before and after the tournament. Participants indicated slightly more civic intentionality (M = 11.6, SD = 5.88) after the tournament than before (M = 11.4, SD = 5.03). However, increases in civic intentionality were not statistically significant, and the null hypothesis of equal means of civic intentionality before and after the tournament was not rejected, $t(111) = 0.67$, $p = 0.5$. Thus, the civic intentionality mean for post-tournament data was not significantly higher than that for pre-tournament.

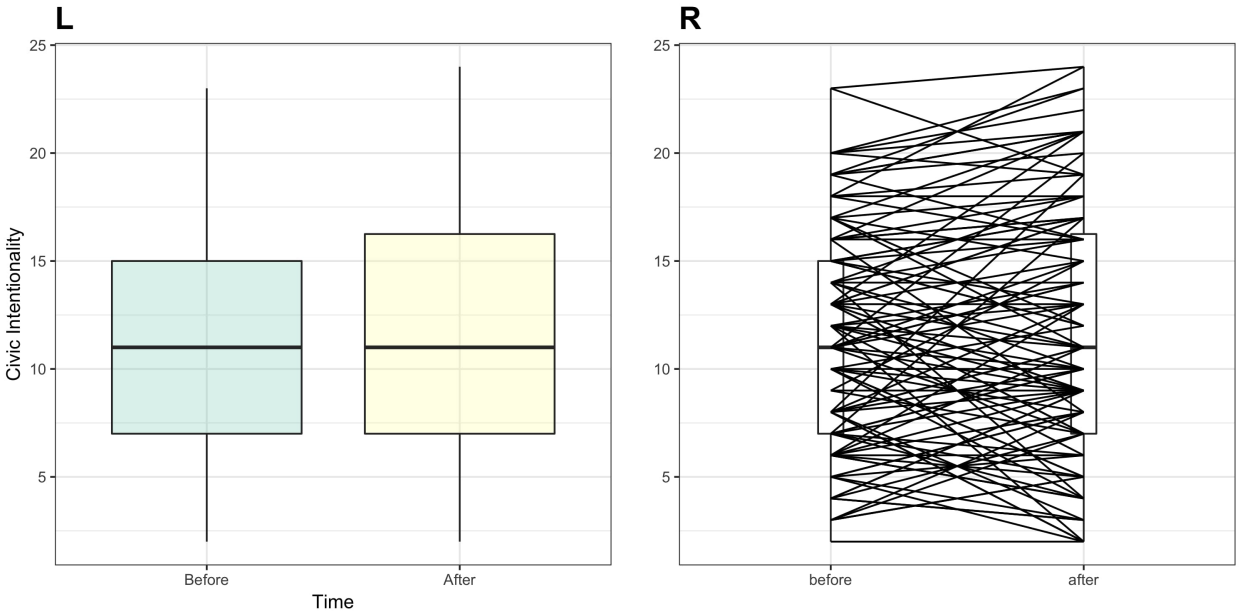

Figure 3. Civic intentionality before and after MIST
(L) Boxplot showing the change in civic intentionality between post- and pre-tournament data
(R) Plot of paired civic intentionality between post- and pre-tournament data

Main Analyses

Following the literature, we first used multiple regression analyses to test whether religiosity can predict civic intentionality. Because civic intentionality is a count measure, we initially fit Poisson regressions to the data. However, because the variance was larger than the

means (over-dispersion), we made the strategic decision to use ordinary least squares for the fit instead. To ensure that the least squares coefficients would be efficient, we checked for the homoscedasticity (variable independence) assumption of linear squares by plotting the model diagnostic (Figure 4 & 5). Next, pair-wise correlation among explanatory variables was examined using the correlation matrix, and multicollinearity was assessed using the variance inflation factor. The results of these diagnostic measures suggested that our models adequately represented the data. While controlling for socioeconomic variables, including gender, age, level of parents' education, parents' income, and citizenship, we fit a multiple regression model to estimate civic intentionality, using different dimensions of religiosity.

$$\textit{Civic Intentionality} = \beta_0 + \beta_1 * \textit{religious meeting} + \beta_2 * \textit{religious activity} + \beta_3 * \textit{divine} + \beta_4 * \textit{approach} + \beta_5 * \textit{dealings} + \beta_6 * \textit{female} + \beta_7 * \textit{age} + \beta_8 * \textit{parent education} + \beta_9 * \textit{parent income} + \beta_{10} * \textit{US citizen} + u$$

Before the tournament (Time 1), public and private religious activities were positively correlated with civic intentionality. However, these associations were not statistically significant. Among intrinsic religiosity measures, experiencing the presence of God (IR1) alone significantly predicted civic intentionality. Specifically, each unit of increase on the intrinsic religiosity scale corresponded to an increase of 1.34 counts for civic intentionality, controlling for the other variables in the model. Interestingly, the negative association between having a religious approach to life and civic intentionality was marginally significant (b = -1.12, p = .12). Students who agreed more strongly with the grounding of their whole life approach in their religious beliefs intended to engage in fewer civic activities in the future. The coefficient of 2.36 for the dummy variable of gender indicated that female students intended to engage on average in two more civic activities than male students. In the post-tournament data, none of the variables significantly predicted civic intentionality. These findings partially confirmed our hypothesis of

the association between religiosity and civic engagement. We expected that participants who were more religious would also be more likely to engage in civic activities in the future, but only the measure of intrinsic religiosity was found to be significantly related to civic intentionality.

Table 3. Descriptive statistics of covariates at Times 1 and 2

Variable	Mean (SD)	Min.	Q1	Q3	Max.
Time 1					
Civic intentionality	11.4 (5.03)	2	7	15	23
ORA	4.14 (1.33)	1	3	5	6
NORA	4.84 (1.32)	1	4	6	6
IR1	4.29 (0.82)	1	4	5	5
IR2	4.14 (0.79)	2	4	5	5
IR3	4.09 (0.91)	1	4	5	5
Degree (F)	5.10 (2.53)	0	3	7	12
Degree (P)	2.43 (2.12)	0	1	4	9
Eigenvector (F)	0.43 (0.21)	0.08	0.24	0.58	1.00
Eigenvector (P)	0.29 (0.22)	0.11	0.11	0.44	1.00
Betweenness (F)	4.46 (7.82)	0	0	5	41
Betweenness (P)	1.55 (5.45)	0	0	0	42
Time 2					
Civic intentionality	11.6 (5.88)	2	7	16.2	24
ORA	4.02 (1.33)	1	3	5	6
NORA	4.82 (1.37)	1	4	6	6
IR1	4.31 (0.82)	1	4	5	5
IR2	4.14 (0.8)	2	4	5	5
IR3	4.13 (0.89)	1	4	5	5
Degree (F)	4.88 (2.33)	0	3	6	11
Degree (P)	2.14 (1.95)	0	1	3	8
Eigenvector (F)	0.44 (0.21)	0.09	0.27	0.55	1.00
Eigenvector (P)	0.29 (0.22)	0.13	0.13	0.38	1.00
Betweenness (F)	3.30 (5.14)	0	0	6	23
Betweenness (P)	0.73 (2.60)	0	0	0	17.5

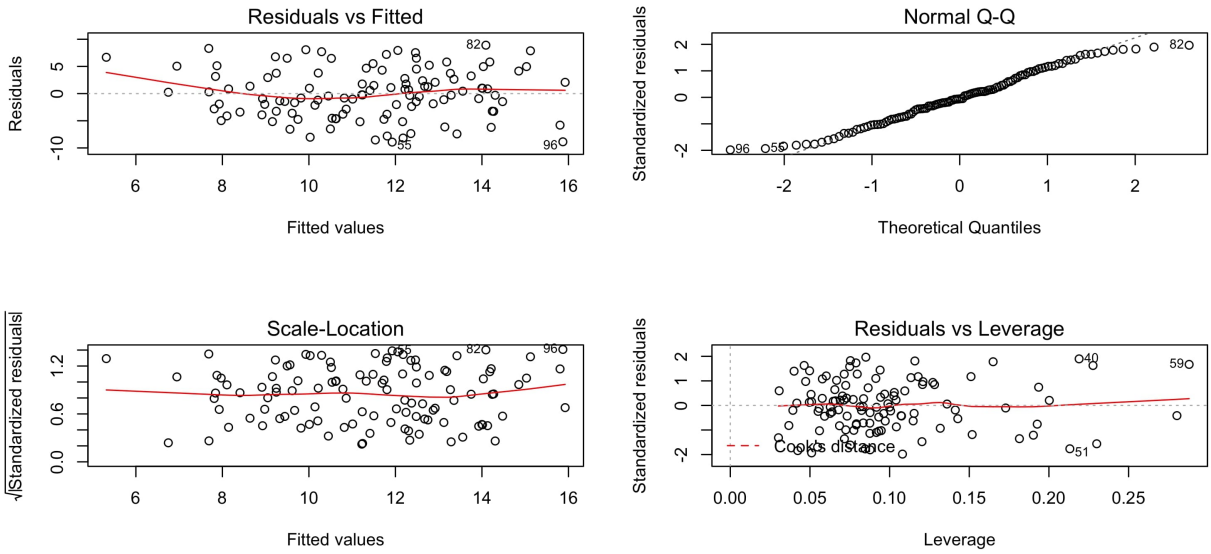

Figure 4. Regression diagnostic plots for civic intentionality and religiosity (Time 1).

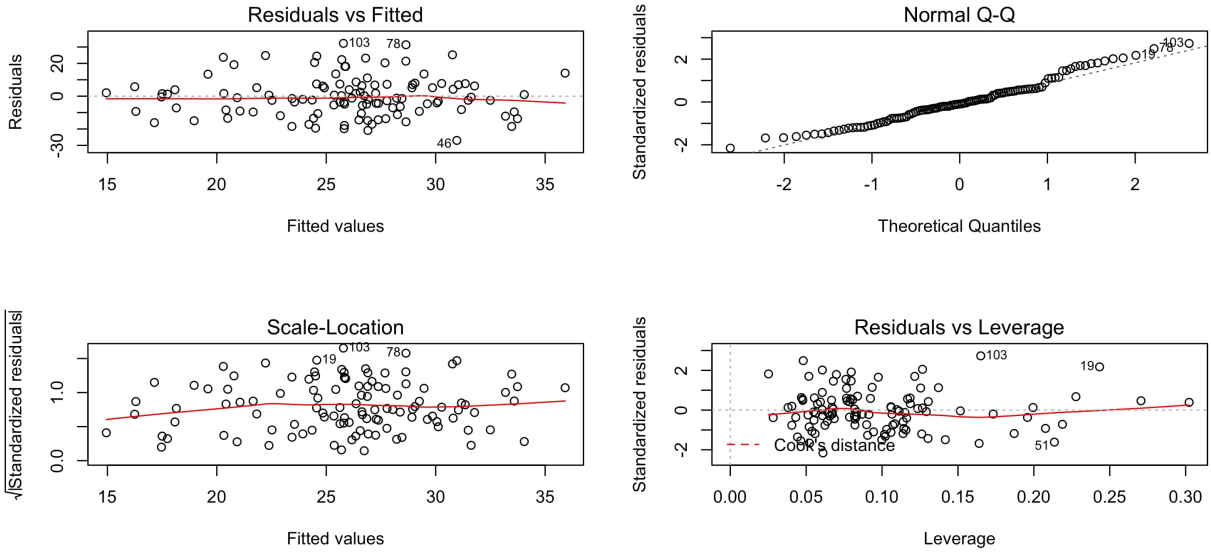

Figure 4. Regression diagnostic plots for civic intentionality and religiosity (Time 2).

Table 4. Multiple linear regression analyses predicting civic intentionality from religiosity

	Civic Engagement					
	Time 1			Time 2		
Variable	Coef.	S.E.	*p*	Coef.	S.E.	*p*
Religiosity						
ORA	0.29	0.42	0.49	-0.04	0.54	0.95
NORA	0.65	0.38	0.09	0.37	0.49	0.45
IR1 (divine)	1.34	0.62	0.03*	-0.48	0.77	0.53
IR2 (approach)	-1.12	0.72	0.12	0.38	1.00	0.70
IR3 (dealings)	0.42	0.64	0.52	0.15	0.79	0.85
Covariates						
Female	2.36	1.17	0.05*	2.11	1.56	0.18
Age (in years)	0.37	0.40	0.36	-0.38	0.50	0.44
Parents education	0.59	0.36	0.10	0.62	0.43	0.16
Parents income	0.18	0.13	0.18	0.27	0.17	0.12
US Citizen	42.93	2.18	0.18	0.96	2.74	0.73
Constant	-9.16	8.57	0.29	10.14	10.42	0.33
Adjusted R^2		0.11			0.01	

Note. Metric coefficients are reported (*SE*), with *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

Next, we examined the relationship between network centrality and civic intentionality. We hypothesized that being more central in a network could predict larger civic intentionality and were considered that the association would be stronger in the political network. Before the tournament, all three types of centrality measures, including degree, eigenvector, and betweenness were positively correlated with civic intentionality for both types of networks. However, the t-test suggested that the beta coefficients were not statistically significant. The models for the friendship network at Time 1, indicated that female participants intended to engage in 2.28 more civic activities, on average, than the male participants, controlling for the other variables (Table 5). Following the tournament, the gender effect was no longer significant. Overall, none of the network centrality measures significantly predicted civic intentionality. These findings did not support our hypothesis that participants who are more central in networks are more likely to have higher future intention for civic engagement.

Degree centrality = $\beta_0 + \beta_1$**female* + β_2**age* + β_3**parent education* + β_4**parent income* + β_5**US citizen* + *u*
Eigenvector centrality = $\beta_0 + \beta_1$**female* + β_2**age* + β_3**parent education* + β_4**parent income* + β_5**US citizen* + *u*
Betweenness centrality = $\beta_0 + \beta_1$**female* + β_2**age* + β_3**parent education* + β_4**parent income* + β_5**US citizen* + *u*

Table 5. Multiple linear regression analyses predicting civic intentionality from centrality

	Friendship Network					
	Time 1			Time 2		
Variable	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Degree	0.03			-0.18		
	(0.19)			(0.23)		
Eigenvector		0.26			-2.17	
		(2.35)			(2.76)	
Betweenness			0.01			0.01
			(0.06)			(0.07)
Female	2.28*	2.29*	2.28*	2.45	2.46	2.23
	(1.10)	(1.11)	(1.10)	(1.30)	(1.30)	(1.30)
Age (in years)	0.30	0.30	0.30	-0.42	-0.42	-0.46
	(0.40)	(0.40)	(0.40)	(0.47)	(0.47)	(0.47)
Parents education	0.65	0.65	0.65	0.67	0.67	0.67
	(0.35)	(0.35)	(0.35)	(0.42)	(0.42)	(0.42)
Parents income	0.17	0.17	0.16	0.23	0.23	0.24
	(0.14)	(0.14)	(0.14)	(0.16)	(0.16)	(0.16)
US Citizen	1.81	1.79	1.75	0.19	0.19	0.51
	(2.16)	(2.16)	(2.13)	(2.54)	(2.54)	(2.51)
Constant	-0.13	-0.10	0.03	13.91	13.92	13.38
Adjusted R^2	0.05	0.05	0.05	0.04	0.04	0.04
	Politics Network					
	Time 1			Time 2		
Variable	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Degree	0.32			0.36		
	(0.23)			(0.29)		
Eigenvector		2.98			3.38	
		(2.18)			(2.53)	
Betweenness			0.02			0.07
			(0.09)			(0.22)
Female	1.94	1.96	2.27*	1.94	1.90	2.20
	(1.11)	(1.11)	(1.10)	(1.30)	(1.30)	(1.29)
Age (in years)	0.26	0.28	0.29	-0.52	-0.50	-0.47
	(0.39)	(0.39)	(0.40)	(0.47)	(0.46)	(0.47)
Parents education	0.62	0.63	0.65	0.61	0.60	0.66
	(0.35)	(0.35)	(0.35)	(0.42)	(0.42)	(0.42)

Parents income	0.18	0.17	0.16	0.25	0.25	0.23
	(0.14)	(0.14)	(0.14)	(0.16)	(0.16)	(0.16)
US Citizen	1.68	1.67	1.75	0.32	0.29	0.46
	(2.11)	(2.11)	(2.13)	(2.50)	(2.50)	(2.52)
Constant	0.29	-0.12	0.21	14.18	13.82	13.64
Adjusted R^2	0.07	0.07	0.05	0.05	0.05	0.04

Note. Metric coefficients are reported (*SE*), with $*p < 0.05$, $**p < 0.01$, $***p < 0.001$.

Finally, we examined the interpersonal influence of civic intentionality through social networks both before and after the tournament. Specifically, we investigated the spread of civic intentionality. We hypothesized that an increase in a friend's civic intentionality would mirror a significant increase of the participant, controlling for religiosity, centrality, demographics, and homophily. Within the networks, each tie was identified as either homophilic (=1) or heterophilic (=0), assessing three nodal attributes: gender, age, and school (Table 6). More identified ties appeared in school homophily because school information was available for all nodes (both participants and participants' friends); but gender and age were only available for participants who completed the survey for both time points. Largest to smallest homophilies in both networks were gender, school, and age. The political network had a higher percentage of homophilic ties across attributes than the friendship network. The homophilic parameters were included in the model to control for social selection or preferential attachment. Although we found no significant associations between civic intentionality and measures of religiosity or centrality, those variables were nevertheless included in the final model, following the literature.

Table 6. Homophilic ties by gender, age, and school, according to network type

	Friendship		Politics	
Variable	Homophily	Heterophily	Homophily	Heterophily
Gender	109 (95%)	6 (5%)	57 (100%)	0 (0%)
Age	66 (57%)	49 (43%)	40 (70%)	17 (30%)
School	331(77%)	101 (23%)	151 (83%)	32 (17%)

We used GEEs to model our data. Again, we initially specified Poisson models with a log link to investigate the associations between the civic intentionality of ego and alters, with reference to the count outcome. Due to the over-dispersion of the data, we modeled GEEs using a Gaussian (i.e. normal) distribution, with an identity link. We specified the working correlation structure as an independent correlational matrix, assuming the non-existence of time dependency for two reasons: the small number of clusters in the model (Horton & Lipsitz, 1999) and the replication of the GEE model by Christakis and Fowler (2007), according to whom the coefficient for the alter's civic intentionality at Time 2 would indicate network influence. Ego's civic intentionality at Time 1 was used to control the elimination of serial correlation in the errors and any past history of the ego recorded at the baseline survey. Using the ego-alter pair data from after the tournament (Time 2) and the current and lagged civic intentionality of ego and alter, we estimated ego's civic intentionality at Time 2.

$$g\left(E\left[Y_{T2}^{ego}\right]\right) = \alpha + \beta_1 y_{T1}^{ego} + \beta_2 y_{T2}^{alter} + \beta_3 y_{T1}^{alter} + \sum_{i=1}^{k} \gamma_i x_i$$

Friendship network. In model 1, we conducted regressions of ego's civic intentionality at Time 2 as a function of ego's age, gender, ego's parent's education, homophily measures, and civic intentionality in Time 1 and the civic intentionality of an alter at both time points. In model 2, we added religiosity measures to control for the influence of religiosity on the outcome variable. In model 3, we added ego's degree centrality with other covariates to estimate ego's post-civic intentionality. The regression coefficients in the models showed that ego's pre-civic intentionality significantly predicted post-civic intentionality ($b = 0.88$, $p < 0.001$). Ego's age also significantly predicted civic intentionality after the tournament in all three models. With each additional year of age, participants indicated 0.73 to 1.06 less civic intentionality on average, holding other variables constant. Female participants had a civic intentionality

averaging at 2.70 less than their male peers in model 1. Model 2 showed that two religiosity measures significantly predicted civic intentionality. Increases in attendance at public religious meetings, measuring ORA, were negatively correlated with civic intentionality, while increases in IR1 was associated with a 1.22 increase in civic intentionality. The measure of school homophily was the strongest predictor of civic intentionality – participants with a friend from the same school had civic intentionality averaging 4.54 higher than those with friends from different schools. As in model 2, IR1 and school homophily were positively correlated with civic intentionality when for other variables were controlled; these associations were statistically significant. These findings did not support our hypothesis that the presence of social influence on civic intentionality, and the coefficients of the key variable of interest, namely, alters' civic intentionality at Time 2, were not significant.

***Political network*.** As with the results from the friendship network, the regression models for political networks showed the expected results: ego's civic intentionality at Time 1 significantly predicted civic intentionality at Time 2. The models indicated that covariates of gender and gender homophily were removed due to their rank deficiency. In model 1, a significant coefficient of alter's post-civic intentionality (Time 2) suggested that ego's civic intentionality may have been affected by their alter's civic intentionality. However, the association was negative, so our hypothesis was repudiated. Specifically, the increase of alter's civic intentionality by 1 resulted in a decrease of 0.5 in ego's civic intentionality. Ego's age was found to be negatively associated with civic intentionality as well. In models 2 and 3, school homophily was negatively associated with civic intentionality, in contrast with the results of the friendship network. An increase in public religious meeting attendance was positively associated with in both models. By contrast with the models 2 and 3 in the friendship network, experiencing

the presence of God was negatively correlated with civic intentionality in the politics network (b = -1.21, p = 0.04).

Table *7.* Generalized estimating equations: the spread of civic intentionality

	Network Type					
	Friendship			Politics		
Variable	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Ego pre- tournament civic intentionality	0.88*** (0.07)	0.84*** (0.08)	0.79*** (0.08)	0.98*** (0.08)	0.86*** (0.11)	0.87*** (0.12)
Alter pre-tournament civic intentionality	0.06 (0.16)	0.00 (0.15)	-0.05 (0.14)	0.58 (0.31)	0.01 (0.25)	0.01 (0.26)
Alter post-tournament civic intentionality	0.00 (0.15)	0.04 (0.14)	0.06 (0.13)	-0.50* (0.24)	-0.02 (0.18)	-0.03 (0.19)
Ego age (in years)	-0.73* (0.35)	-0.97** (0.36)	-1.06** (0.36)	-1.01** (0.31)	-0.53 (0.35)	-0.70 (0.45)
Ego female	-2.70* (1.22)	-1.18 (1.45)	-1.50 (1.51)			
Ego parent's highest education level	-0.04 (0.29)	-0.25 (0.34)	-0.07 (0.34)	-0.15 (0.33)	0.25 (0.31)	0.32 (0.28)
Ego degree			0.30 (0.18)			0.28 (0.28)
Ego ORA		-0.25* (0.34)	0.88 (0.46)		0.98* (0.45)	0.93* (0.41)
Ego NORA		0.16 (0.44)	0.23 (0.44)		0.85 (0.55)	0.98 (0.61)
Ego IR1		1.22* (0.51)	1.02* (0.50)		-1.01 (0.66)	-1.21* (0.62)
Ego IR2		0.66 (0.78)	0.46 (0.80)		0.97 (1.17)	0.78 (1.22)
Ego IR3		-0.89 (0.72)	-0.81 (0.71)		0.47 (0.99)	0.70 (0.97)
Gender homophily	-4.23 (3.58)	-3.74 (3.62)	-4.13 (3.29)			
Age homophily	0.18 (0.93)	0.32 (0.84)	0.57 (0.84)	0.22 (1.11)	0.59 (1.19)	0.58 (1.21)
School homophily	3.35 (1.98)	4.54** (1.69)	3.97* (1.62)	-0.97 (2.13)	-2.88* (1.37)	-4.40* (1.88)
Constant	16.42	10.67	12.83	17.07	1.47	4.39

Note. *p < 0.05, **p < 0.01, ***p < 0.001.

Discussion

The U.S. is experiencing increases in the religious, racial, and ethnic diversity of its population (U.S. Census Bureau, 2017). This trend is evident in national leadership: racial or ethnic minorities make up 22% of the 116th Congress, which includes the first two Muslim

women ever to serve in the House of Representatives (Pew Research Center, 2019). However, study of Muslim Americans, particularly adolescents, with respect to topics other than their negative experiences, is rare. Therefore, this study investigated patterns of changes in youth civic engagement intentionality during MIST by examining the relationship between civic engagement and its well-known factors. Overall, our results did not support previous studies, which have found positive associations between religiosity and civic engagement (Lewis et al., 2013; Lam, 2002; Park & Smith, 2002; Putnam & Campbell. 2010) and between social capital (measured by network centrality scores in our study) and civic engagement (Huang et al., 2017). To extend the research on social contagion theory performed by Christakis and Fowler (2007), we examined potential spread in civic intentionality across network ties. Unlike those authors, who found contagion effects for diverse phenomena, such as obesity, smoking, alcohol consumption, emotions, and cooperative behaviors, our findings did not provide evidence for the spread or interpersonal influence of civic intentionality among the participants.

We first tested whether the overall civic intentionality of 112 participants changed from before and after the MIST tournament. We expected that participation in MIST, which is designed to promote both the understanding of religious identity and networking behavior, would promote civic behavior among the participants, resulting in an increase of overall civic intentionality over time. Running a paired t-test, we found a statistically insignificant increase in the mean difference of civic intentionality between before and after the tournament. Thus, we were not able to maintain that participation in the MIST would increase civic intentionality.

Then, we investigated the link between civic intentionality and religiosity, which is a well-investigated predictor for civic engagement, although only a few studies have examined how Muslim religiosity in particular can affect civic engagement. Our expectation was that our

findings would mirror the results of previous studies, namely, that civic engagement has positive associations with multiple aspects of religiosity (Lam, 2002). We ran multiple linear regressions and found a significant association between belief in the presence of God and civic intentionality in the data collected before the tournament. However, no other dimensions of religiosity, including the frequency of visits to a mosque or Islamic center, frequency of private religious activities, a religious approach to life, or carryover of the religion into other domains of life significantly predicted participants' civic intentionality. It is noteworthy, however, that the previous findings were collected from Christian, church-based samples. Especially in America, church-related organizations and activities can mobilize political activism, provide civic skills, and produce norms (McKenzie, 2004). Our finding was more consistent with the work of Canetti-Nisim (2004), who found a negligible effect of religiosity on democratic values among Israelis.

Given the social nature of civic engagement, we also tested the association between civic intentionality and network centrality (which measures an individual's influence of in a network). Putnam (2000) suggested that churchgoing is an important repository for social capital, which encourages individuals to participate in civic activities. We examined whether Muslim American adolescents' networks would create as much social capital as Christian-affiliated social networks, which could theoretically lead to greater civic intentionality. Multiple regression analyses showed no significant relationships between centrality measures and civic intentionality. Our finding was not consistent with earlier findings of an association between civic engagement and social capital, measured as a form of social contact (Huang et al., 2016) in a cross-national study of 13 Asian countries. However, although Sarkissian (2012) used a different set of measures for

social capital (social trust and tolerance), they also found no association between civic engagement and social capital in their survey of nine Muslim-majority countries.

Finally, we examined the interpersonal influence of civic intentionality, using the social networks of MIST participants from before and after the tournament. We performed longitudinal regression models with GEE to account for multiple observations of the same ego across two time points and across ties between ego and alter. The known predictors of civic engagement were controlled. Our regression indicated that ego's pre-tournament civic intentionality was the most significant predictor for ego's post-tournament civic intentionality. There were several significant predictors across models and network types, and the most important coefficient, namely, alter's post-tournament civic intentionality, was not positively correlated with ego's post-tournament civic intentionality, suggesting no spread of the phenomenon. However, other studies that have found evidence for the spread of the phenomenon of interest used a very large sample size. For example, in their examination of the spread of obesity, Christakis and Fowler (2007) constructed social network data from the data of the Framingham Heart Study (FHS), which included 12,067 egos and alters. Thus, finding an effect size as large and significant as theirs may have been out of reach for this study. Another interpretation would be that not everything spreads, and of the things that spread, not everything spreads by the same mechanism (Christakis & Fowler, 2012).

The limitations of this study mean that its results should be viewed with caution. The first of these relates to the observational nature of our data, which does not allow for causal inference. There are multiple threats to the validity of the data because it lacks a control group. This lack of comparison exposes the data to history, maturation, and testing threat. In the dependent t-test, nonsignificant changes in the students' civic intentionality may simply be the result of specific

time of the year, the passage of time, or the fact that the dependent variable was measured twice (Pettigrew, 1996). Second, the data may not be the best representative of the target population from which the survey sample was drawn. The response rate was very low (17%), and the guinea pig effect was unavoidable in the collection of the data. Analysis suggested that participants tended to present themselves as more central than was reported by other participants in the network; thus individual-level reports may have been inaccurate (Kumbasar, Romney, & Batchelder, 1994). Additionally, the majority of alter's socioeconomic characteristics and variables of interest were missing from the data. The small size of the sample also limited the generalizability of the findings. Third, the validity of the measure of social capital was only moderate. We used network centrality for this purpose, but other key components have been proposed to measure it, including interpersonal trust (Torche & Valenzuela, 2011), strong/weak ties (Pahl, 2000), and even civic participation itself (Li, Pickles, & Savage, 2005). Thus, our use of centrality alone may not have captured the entirety of the reality of social capital in this group. Last, the compromised goodness-of-fit of the models used in the study may require us to qualify our understanding of the findings. The multiple regression analyses used to investigate the associations between civic intentionality and religiosity and between civic intentionality and centrality were reported with adjusted R^2, which evaluates the differences between the observed data and the fitted values, taking the number of predictor variables into account. The adjusted R^2 for the models ranged from 0.01 to 0.11, averaging 0.05 or 5%, meaning that the parameters in the model explained about 5% of the variation in civic intentionality. Thus, the predictor variables of religiosity and network centrality accounted for only a small portion of the variation, suggesting random measurement error or the presence of other confounding variables. Similarly, there is no universally accepted goodness-of-fit test for GEE, which can be quite sensitive to

outliers or contaminated data (Khajeh-Kazemi et al., 2011). Because our total sample size was small, the chance that we developed an inconsistent estimation is high.

Despite these limitations, this study makes clear that broader study that investigates the relationship between religiosity, social networks, and civic engagement in youth of underrepresented religious minorities is necessary. The majority of the findings were not consistent with the current literature, although that has taken mostly Christian American adult samples. To the author's knowledge, the data set used in this study represents the first set of social network data ever collected from a population of Muslim American adolescents. Our findings indicate that cookie-cutter findings in different target population cannot be generated. Despite the negligible associations found in the models, the questions this study raised are not negligible. Although several studies have found a relationship between religious social networks and civic engagement, the resulting understanding of the underlying mechanisms is limited. An empirical examination of the possibility that future intention of civic engagement could spread throughout social networks, we proposed a potential mechanism to improve the understanding of how social networks can shape patterns of civic engagement over time. Future research should collect larger samples to replicate the findings of this study. With a representative data set and valid measures, future work will be able to shed light on how students' social networks change over time and how these changes shape youth civic behaviors. The use of a mediation model to investigate the relationship between religiosity, social networks, civic engagement will be a next step to further our understanding of potential mechanisms. In all, the development of an appropriate, quantitative model to investigate the characteristics of civically involved adolescents and how network ties shape their patterns can contribute to creating a more civically engaged society; this study was an early step toward this goal.

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Appendix A: Supplementary Information

(1) How often do you attend church or other religious meetings? (ORA) 1 - Never; 2 - Once a year or less; 3 - A few times a year; 4 - A few times a month; 5 - Once a week; 6 - More than once/week

(2) How often do you spend time in private religious activities, such as prayer, meditation or Bible study? (NORA) 1 - Rarely or never; 2 - A few times a month; 3 - Once a week; 4 - Two or more times/week; 5 - Daily; 6 - More than once a day

The following section contains 3 statements about religious belief or experience. Please mark the extent to which each statement is true or not true for you.

(3) In my life, I experience the presence of the Divine (i.e., God) - (IR) 1 - Definitely not true; 2 - Tends not to be true; 3 - Unsure; 4 - Tends to be true; 5 - Definitely true of me

(4) My religious beliefs are what really lie behind my whole approach to life - (IR) 1 - Definitely not true; 2 - Tends not to be true; 3 - Unsure; 4 - Tends to be true; 5 - Definitely true of me

(5) I try hard to carry my religion over into all other dealings in life - (IR) 1 - Definitely not true; 2 - Tends not to be true; 3 - Unsure; 4 - Tends to be true; 5 - Definitely true of me