Engaging Immigrant Religious Organizations in HIV/AIDS Education: The Role of Social Networks

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Abstract

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The higher rates of religious affiliation among immigrants and the expansive role of religious organizations in community life point to immigrant religious organizations' potential as an influential site for HIV/AIDS education. Using data from a study of Chinese immigrant religious organizations in New York City, this paper examines if specific forms of social capital are associated with an organization's likelihood of being involved in HIV/AIDS activities. We use survey and social network data to analyze social engagement orientation, bonding social capital and bridging social capital among church and temple members. We find religious organizations whose members value civic engagement in health issues and have more network contacts outside their immediate church or temple are more likely to engaging in non-religious issues such as HIV/AIDS. Our study highlights the importance of looking beyond religion type and religious leadership to social network structures to better assess organizational receptiveness to HIV/AIDS.

INTRODUCTION

Religious organizations play a pivotal role in the immigrant acculturation process by creating an environment that offers spiritual and cultural refuge, provides social services, and motivates trust and mutual assistance among strangers. For generations of immigrants, religious organizations have served as trusted guides for selective incorporation into the destination society while maintaining specific cultural and spiritual practices from the homeland. This role has expanded beyond religion into other service domains such as promoting community health (Cadge and Ecklund 2007; Chin et al. 2008). Immigrant religious organizations are increasingly promoting general health awareness by sponsoring health fairs and incorporating health messages into religious sermons and talks, yet few have gotten involved in addressing more stigmatized health issues such as HIV/AIDS.

In the difficult process of acculturation, social networks help individuals differentiate between beneficial and detrimental health beliefs and behaviors from origin and destination countries (Portes and Rumbaut 2006). However, the receptiveness to new information and selection of health beliefs are not always straightforward. Some health promotion messages, such as encouraging the consumption of traditionally prepared foods, are more consistently aligned with cultural and religious beliefs, while other issues, especially ones that touch on stigmatized topics such as reproductive health and HIV prevention may conflict with existing norms and be less readily accepted (Agadjanian 2002; Rosero-Bixby and Casterline 1993). When conflict occurs, religious organizations that are the source of refuge, resources and mutual assistance for immigrants can also impede the acceptance of important information needed to decrease HIV/AIDS risk and stigma (Kang et al. 2013).

HIV/AIDS and Chinese Immigrants: The Value of Religious Organizations

Thirty years into the U.S. HIV/AIDS epidemic, New York City continues to be one of its centers. Despite an extensive HIV/AIDS infrastructure, immigrants, many of whom are low-income, non-English speaking and undocumented, still face significant barriers to accessing HIV/AIDS information and services. For Chinese immigrants in New York, there is a dual HIV/AIDS risk context. First, there is high prevalence in some parts of mainland China and Southeast Asia where many Chinese immigrants originate from or migrate through to the U.S., which increases their exposure to HIV/AIDS (WHO 2011). As of 2012, there were an estimated 4.78 million people living with HIV/AIDS in East, South and Southeast Asia (Joint United Nations Programme on HIV/AIDS (UNAIDS) 2013); Achkar et al. 2004; Chin et al. 2007). Second, Chinese migrants from Mainland China and Southeast Asia, who have a high percentage of people who are undocumented, face many HIV/AIDS risk factors, such as higher rates of poverty, lower rates of education, higher rates of mental disorders and infectious diseases, higher rates of being poorly misinformed about HIV/AIDS transmission, and limited access to medical care (Kang et al. 2000, 2005). Beyond the individual level, HIV/AIDS stigma in the Chinese immigrant population remains persistent (Kang et al. 2005). This stigmatization has consequences that increase HIV/AIDS risk, including delays in HIV testing and care (Bhattacharya 2004), marginalization and isolation of individuals living with HIV/AIDS (Chin et al. 2005), increased mental illness due to stress (Chin et al. 2007), stigma and shame (Kang et al. 2005), and lost opportunities for prevention education (Kang et al. 2000)[1].

[1] There were 1,936 Asians and Pacific Islanders "known" to be living with HIV/AIDS in New York City, at the end of 2011, compared to 803 at the end of 2001, an increase of 141% over the 10-year period (New York City Department of Health and Mental Hygiene 2001, 2011). In the most recent five years for which data are publicly available (2007-2011), there have been more than 100 new HIV diagnoses reported each year among Asians and

In New York City, religious organizations in the Chinese immigrant community comprise of almost half (42%) of the 316 identified community institutions (Chin et al. 2007, 2005). Their large numbers as well as their cultural influence and trustworthiness give religious organizations a distinct community leadership role. In addition to seeking religious and spiritual guidance from religious organizations, community members rely on churches and temples for emotional support and practical guidance on everyday matters from jobs, schooling, health and finances (Chin et al. 2007; Guest 2003; Hirschman 2004). Religious organizations' significant role in immigrants' everyday lives uniquely positions them as key community institutions that can address HIV/AIDS by either raising awareness or by perpetuating silence and stigma.

Social Engagement Orientation and HIV/AIDS Involvement

In a study of Chinese immigrant religious organizations in New York City, Chin et al. (2011) found that variation in receptiveness to HIV/AIDS involvement was explained by whether the organization's leadership had a "sanctuary" or "civic" orientation towards social engagement. Social engagement orientation refers to an organization's perspective on involvement in the secular world and is reflective of the level of social capital among its organizational members (Smidt et al. 2000). Social capital is defined as the ability of individuals to secure benefits and information by being a member in a social network, association or organization (Coleman 1990; Portes 1998). Religious organizations, even within the same

Pacific Islanders in New York City (New York City Department of Health and Mental Hygiene 2007, 2008, 2009, 2010, 2011). According to limited surveillance data available, foreign-born cases made up the great majority (72%) of cumulative API AIDS cases in NYC through the end of 2003. Of the cumulative reported AIDS cases among foreign-born APIs in NYC, the largest proportion (27%) was among Chinese (i.e., those born in mainland China, Taiwan or Hong Kong), followed by Asian Indians (9%) and Filipinos (8%) (New York State Department of Health, Bureau of HIV/AIDS Epidemiology 2005)

religious denomination, may foster different levels of social capital and type of social engagement orientation (Mock 1992; Roozen, McKinney, and Carroll 1984; Smidt et al. 2000). Using qualitative interviews and case study methods, Chin et al. (2011) found social engagement orientation had a larger effect on HIV/AIDS involvement than type of religion or denomination, with civic-oriented Christian churches and Buddhist temples being more involved in HIV/AIDS activities than sanctuary-oriented organizations.

Bonding and Bridging Social Capital

As a place of spiritual and cultural refuge, immigrant religious organizations often attract members who are seeking the company of others with similar characteristics and backgrounds. This tendency to interact with similar others also termed *homophily,* influences the formation of social network ties that can strengthen trust and mutual assistance among strangers (McPherson, Smith-Lovin, and Cook 2001; McPherson and Smith-Lovin 1987). In contrast, because effective immigrant adaptation to a new society entails new more diverse resources and contacts, some people may prefer to link with others who are different leading to the formation of *heterophilous* ties.

Homophily and heterophily are two forms of selective mixing further distinguished by status, values and contexts. Status mixing describes the tendency to associate with others who have the same or different social status or demographic characteristics (e.g. race, gender, age). Value mixing refers to the tendency to associate with others who think in similar or dissimilar ways, regardless of status (Lazarfeld and Merton 1954). While most research on selective mixing has focused on demographic characteristics, studies have also examined how contextual factors, such as organizational membership can affect an individual's mixing behavior

(McPherson and Smith-Lovin 1987). Forming ties around membership helps organize social relations, and these influences can be strong enough to overcome barriers to social mixing posed by status or values.

The level of homophily or heterophily in an organization influences the formation of different types of social capital that can impact people's receptiveness to new or controversial ideas. We posit two distinct types of network resources, bonding and bridging social capital, which may affect an organization's social engagement orientation and their receptiveness to HIV/AIDS involvement. *Bonding social capital* tends to bring people within a group closer together. The cohesive or strong network ties associated with bonding often occur among people who already know each other and have a lot in common. *Bridging social capital* tends to bring disparate groups of people together. The ties that are formed are often weak since people previously do not know each other and have less in common (Gittell and Vidal 1998; Putnam 2000). Both bonding and bridging are occurring within sanctuary and civic-oriented religious organizations, but at differing levels, thus impacting the structure of relationships among members and their outside contacts. In this study, we explore the relationship between bonding and bridging social capital and religious organization's social engagement orientation and HIV/AIDS involvement.

Religious leaders are often targeted in HIV/AIDS education efforts because it is assumed that a leader's endorsement will have the most influence over member attitudes and receptiveness. However, a leader's receptiveness to HIV/AIDS involvement is also greatly influenced by their perception of the acceptability of the topic and by social interactions and ties among the organization's members that may affect views on acceptability (Chin et al. 2005).

Few studies have examined the role of social networks, the relationships and ties among religious organizations, as an integral factor influencing an organizations' involvement in secular activities. In this paper, we examine whether specific social network structures among religious organizational members are related to an organization's openness to HIV/AIDS involvement. We aim to validate and expand on Chin et al.'s (2011) framework in two ways. First, we use quantitative and social network analysis methods to examine whether an organization's social engagement orientation is associated with distinct patterns of social network ties among its members. Second, we use social network theory to explain the associations between network structures, social engagement orientation, and organizational involvement in HIV/AIDS activities. Using survey and social network data from 20 Chinese immigrant religious organizations (10 Buddhist temples and 10 Christian churches) in New York City, we address the following research questions: Are civic and sanctuary orientations associated with distinct social network structures? How do the organizational contexts of social engagement orientation, and relational contexts of social networks, explain involvement in HIV/AIDS activities?

With the goal of validating and expanding on Chin et al.'s (2011) qualitative case study, we synthesize social network theories with religious social engagement theories to posit the following hypotheses and conceptual model (Figure 1):

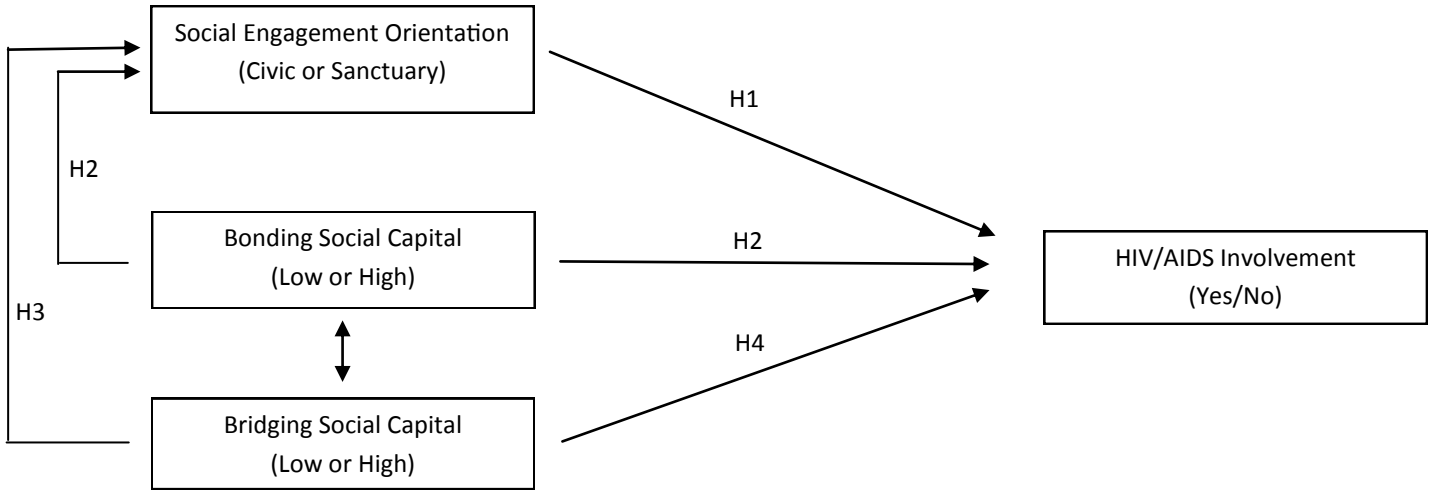
Hypothesis 1: Civic-oriented organizations are more likely to be involved in HIV/AIDS activities than sanctuary-oriented organizations.

Hypothesis 2: There will be similar levels of bonding social capital between civic and sanctuary-oriented organizations, and between religious organizations involved in HIV/AIDS activities and those not involved in HIV/AIDS activities.

Hypothesis 3: Civic-oriented organizations are more likely to have higher bridging social capital than sanctuary-oriented organizations.

Hypothesis 4: Religious organizations involved in HIV/AIDS activities are more likely to have higher bridging social capital than organizations not involved in HIV/AIDS activities.

Figure 1. Concept Map



DATA and METHODS

Sample

The data used in this paper is from a 6-year study (2007-2013) on Chinese immigrant religious institutions and HIV involvement in New York City, funded by the U.S. National Institutes of Health (Grant Number R01 HD054303). Twenty organizations (10 Christian and 10 Buddhist) were randomly sampled from 200 Chinese immigrant religious organizations identified in New York City. The research team conducted a brief organizational assessment with the leaders of each organization (1 per organization), in-depth semi-structured interviews with organizational leaders and members (8 per organization), social network surveys of members (targeting the entire membership of each organization), and structured surveys of members covering a wide range of topics (40 per organization).

First, the organizational assessment and in-depth interviews with leaders collected information on their religious perspectives on HIV/AIDS and health, their organization's leadership structure and organizational activities. Chin et al.'s (2011) results were also based on these leader responses. Second, a short social network survey (short form) was distributed to all members at regular organizational events, resulting in a sample of 936 people from 20 organizations. To assess social network contacts, respondents were asked, "If you were making a decision or had a concern and wanted to talk to someone, tell me the names of the people you might talk to?" Respondents were asked to provide the following information on their named contacts: sex, age, occupation, marital status, birthplace, and frequency of church/temple attendance, and whether contacts were members of the same organization (yes/no). Using this information, the research team identified individuals who were named multiple times and assigned a unique identification number to each unique person. The 936 respondents named 874

additional unique organizational members (internal) and 1031 external contacts totaling 2841 respondents and contacts across 20 organizations. Third, a quantitative survey was conducted among a sample of 803 people, arrived at by randomly selecting about 40 people from each of the 20 organizations, drawing from both the respondents to the short social network survey and the contacts they named who were members of their organization. These respondents and their contacts were asked to complete a structured survey (long form) that covered HIV knowledge and attitudes, views on health and HIV involvement, religious views and demographics.

For hypothesis 1, we used the long form survey data of organizational members (n=803) and the organizational assessment with each organization's leadership (n=20) to assess social engagement orientation and HIV/AIDS involvement. For hypothesis 2, we used the short form social network data on organizational members (n=1810) to measure bonding social capital. For hypotheses 3 and 4, we used the short form social network data on all organizational members and their external contacts (n=2841) to measure bridging social capital.

Measures

The main unit of analysis used in the study is the religious organization. Organizational level measures were taken from the organizational assessment with religious leaders or were derived from an aggregation of individual level data from the short form social network survey and long form structured survey. This paper uses network measures of density, reciprocity and status homophily (by gender, age category and birth country) to measure the extent of bonding social capital, and organization membership heterophily to measure the extent of bridging social capital.

Dependent variable

Organizational involvement in HIV/AIDS activities: Religious leaders were surveyed on the number of HIV/AIDS activities conducted at their organization in the last 5 years (i.e., HIV awareness and prevention workshops; providing individual support and counseling to people at risk or living with HIV/AIDS; disseminating HIV education materials; and participating in HIV/AIDS policy advocacy or grassroots activism). From this count data, we constructed a binary variable for HIV/AIDS involvement (0/1).

Network Variables

Bonding Social Capital: A composite measure in the form of the sum of five binary measures based on density, reciprocity and three types of status homophily (gender, age and birth country) was used to indicate the level of bonding social capital for each organization. Density is an organizational level measure of the proportion of ties that were observed out of all possible ties, with higher density indicating a more cohesive or bonded network. Density values range from 0 (no connections) and 1 (completely connected). Reciprocity is an organizational level measure of mutuality calculated as the proportion of dyads in which two people name each other as contacts. High reciprocity has a positive correlation with bonding social capital since it indicates mutual connection, trust and a level of social support within a network. To measure high density and reciprocity, we computed the group mean for the 20 religious organizations and recoded their respective density and reciprocity values as a binary variable (0/1) with 1 corresponding to organizational means equal to and above the group mean. Status homophily is an organizational measure of the likelihood of members making contacts with other members who have the same

attribute. Gender, age category and birth country homophily estimates were recoded as a binary variable (0/1) with 1 corresponding to a significant estimate at a p-value <.05.

Values of bonding social capital range from 0 (no bonding social capital) to 5 (very high bonding social capital). For example, an organization with high density, high reciprocity and significant gender homophily was coded as having a bonding social capital value of 3. We designate organizations with high bonding social capital to have a sum of 3 and above and low bonding social capital to have a sum below 3.

Bridging Social Capital: A network level measure of membership heterophily was used to determine bridging social capital. High bridging social capital indicates a more diverse network allowing for more exposure to new ideas. We measured membership heterophily as the likelihood of religious organizational members to name external contacts.

Independent variables

Organizational religion and denomination: Religious leaders were surveyed on their religion type and denomination and then categorized into three distinct groups (Christian Evangelical, Christian Mainline Protestant, and Buddhist).

Organizational social engagement orientation: Sanctuary or civic orientation at the organizational level was determined by aggregating members' responses to a 5-point survey (long form) question regarding support for non-religious community involvement: "Religious organizations should play some kind of role in health-related work in the community." A higher number indicated more agreement with the statement.

Attributes of network contacts: We used the following attribute information collected on the short form social network survey: gender (male, female), age (in years), marital status (married, not married), birthplace (Hong Kong, Mainland China, Taiwan, Other), and church/temple membership (yes/no). We recoded age (in years) into five age categories: 1-24; 25-34; 35-44; 45-54; and 55+.

Data Analysis

Multiple methods and statistical software were used in this study. To examine the association between social engagement orientation and involvement in HIV/AIDS activities (hypothesis 1), we used STATA 13.1 to conduct a one-way ANOVA to develop the social engagement designations and compare member responses in organizations involved in HIV/AIDS activities to responses in organizations not involved in HIV/AIDS activities. To examine the association between bonding social capital, social engagement orientation and HIV/AIDS involvement (hypothesis 2), we generate descriptive statistics of graph-level indices of density and reciprocity using the sna package (Butts 2014) in the R statistical environment (R Core Team 2014). To examine the association between bridging social capital, social engagement orientation and HIV/AIDS involvement (hypothesis 3 and 4), we fit exponential-family random graph models (ERGM) using the ergm package (Hunter D.R. et al. 2008) for measures of status homophily and membership heterophily. Exponential-family random graph modeling (p*) is a statistical approach to modeling social networks that permits inferences about how network ties are patterned. ERGMs can model effects of covariates as well as structural effects in a network. ERGMs take into consideration the interdependency of ties and how the presence of one type of tie affects the presence of other ties. This allows for us to control for

specific variables in order to make inferences about the importance of a specific type of tie, such as member heterophily, compared to that of other tie-generating mechanisms, such s gender homophily. ERGMs also allow us to assess whether the structures in an observed network are due to a specific mechanism rather than what we would expect by chance (Lusher, Koskinen, and Robbins 2013).

RESULTS

We begin our examination of how social network structures and social engagement orientations are associated with organizational involvement in HIV/AIDS activities with a description of demographic characteristics and network properties followed by social engagement orientation, bonding social capital and bridging social capital findings.

Religious organization demographics

Table 1 describes the organizational demographics. There were five organizations involved in HIV/AIDS activities and fifteen organizations not involved in HIV/AIDS activities. There were ten Buddhist organizations, seven Christian Evangelical organizations and three Christian Mainline Protestant organizations. The sizes of the member networks varied widely from a range of 21 contacts (Organization 4, Buddhist) to 241 contacts (Organization 8, Christian Evangelical). Buddhist organizations tended to be smaller than Christian organizations. All organizations had a high percentage of female network members with Organization 12 (Christian Mainline) having the smallest percentage of women (48%) compared with Organization 18 (Buddhist) having the largest (92%). Buddhist organizations tended to have higher female participation than Christian organizations. The mean age of the entire sample was 47 years old

Table 1. Member demographics of religious organizations

Org. ID	Religion (Denomination)	Contacts	Female	Age (average)	Married	Country Born					HIV/AIDS Activities
						Hong Kong	China	Taiwan	Other	Missing	
1	Buddhist	68	59%	48	57%	7%	4%	44%	12%	32%	0
2	Buddhist	81	67%	43	47%	9%	30%	2%	44%	15%	0
3	Christian (Evangelical)	189	59%	40	50%	4%	17%	18%	35%	26%	0
4	Buddhist	29	62%	54	41%	41%	10%	0%	14%	34%	0
5	Christian (Evangelical)	223	58%	42	65%	1%	30%	17%	4%	48%	3
6	Christian (Evangelical)	228	55%	45	65%	38%	21%	0%	10%	32%	0
7	Christian (Evangelical)	284	56%	37	48%	12%	17%	4%	18%	49%	0
8	Christian (Evangelical)	341	35%	33	50%	0%	54%	0%	1%	45%	0
9	Buddhist	116	66%	55	54%	13%	30%	1%	36%	20%	2
10	Christian (Mainline)	78	62%	54	62%	0%	1%	63%	9%	27%	0
11	Buddhist	109	69%	56	61%	7%	46%	0%	9%	38%	3
12	Christian (Mainline)	230	50%	42	47%	1%	66%	3%	1%	30%	5
13	Buddhist	83	73%	52	63%	4%	40%	1%	12%	43%	0
14	Christian (Evangelical)	154	65%	40	49%	16%	17%	0%	42%	25%	0
15	Buddhist	45	67%	45	69%	22%	31%	2%	9%	36%	0
16	Christian (Mainline)	187	36%	43	51%	25%	39%	0%	7%	30%	1
17	Buddhist	98	41%	47	37%	7%	19%	29%	17%	28%	0
18	Buddhist	89	82%	58	65%	8%	45%	13%	21%	12%	0
19	Buddhist	104	70%	42	71%	1%	70%	0%	3%	26%	0
20	Christian (Evangelical)	105	52%	33	56%	3%	72%	1%	0%	24%	0

with Christian organizations having a lower mean age. The majority of the sample was married (54%). The organizational networks showed varied cultural and linguistic patterns by country of birth where members from one or two countries dominated most organizations. Some organizations with a large number of ethnic Chinese members from Southeast Asia were classified as Other. Some networks had shared members between China and Taiwan, China and Hong Kong, or China and Other, but there were no networks comprised of membership from both Hong Kong and Taiwan. These patterns reflect the wide regional, linguistic and cultural connections among the ethnic Chinese, and the differences between Hong Kong and Taiwan.

Social engagement orientation

The classification of social engagement in health was calculated using member responses to the long form survey 5-point question, "Religious organizations should play some kind of role in health-related work in the community." The responses were recoded into three values because of a left skew: disagree which was recoded from the responses “strongly disagree”, “disagree” and “neutral”, tend to agree and strongly agree. A one-way ANOVA was conducted, showing significant differences between organizations ($p < .001$). Eleven organizations above the mean were classified as civic-oriented and nine organizations at the mean and below were classified as sanctuary-oriented.

Table 2 shows that civic-oriented organizations were more likely to be involved in HIV/AIDS activities than sanctuary-oriented organizations. Four out of the five organizations involved in HIV/AIDS activities were civic-oriented. Significantly more civic-oriented organizations were involved with HIV/AIDS than sanctuary-oriented organizations (36% vs. 11%)

Table 2. Social Engagement Orientation

Org. ID	Religion (Denomination)	N	Mean (s.e)	Social Engagement Orientation	HIV/AIDS Activities
15	Buddhist	40	4.03 (0.15)	Sanctuary	0
8	Christian (Evangelical)	39	4.05 (0.12)	Sanctuary	0
6	Christian (Evangelical)	40	4.10 (0.12)	Sanctuary	0
17	Buddhist	40	4.20 (0.13)	Sanctuary	0
11	Buddhist	39	4.28 (0.14)	Sanctuary	3
10	Christian (Mainline)	41	4.32 (0.09)	Sanctuary	0
19	Buddhist	41	4.32 (0.12)	Sanctuary	0
2	Buddhist	40	4.33 (0.12)	Sanctuary	0
14	Christian (Evangelical)	40	4.35 (0.10)	Sanctuary	0
18	Buddhist	39	4.36 (0.13)	Civic	0
1	Buddhist	41	4.41 (0.11)	Civic	0
5	Christian (Evangelical)	40	4.45 (0.09)	Civic	3
12	Christian (Mainline)	40	4.45 (0.09)	Civic	5
7	Christian (Evangelical)	40	4.48 (0.09)	Civic	0
16	Christian (Mainline)	40	4.50 (0.09)	Civic	1
3	Christian (Evangelical)	39	4.51 (0.11)	Civic	0
9	Buddhist	40	4.53 (0.12)	Civic	2
20	Christian (Evangelical)	40	4.55 (0.11)	Civic	0
13	Buddhist	40	4.65 (0.09)	Civic	0
4	Buddhist	40	4.68 (0.10)	Civic	0

Bonding Social Capital

Table 3 presents results of bonding social capital disaggregated by values of density and reciprocity, and ERGM estimates of gender, age category and birth country homophily. Eleven organizations had high bonding social capital ($\geq$3) and nine organizations have low bonding social capital (<3). A t-test comparing bonding social capital means for the two social engagement orientation categories indicated no significant differences between civic-oriented and sanctuary-oriented organizations. A t-test comparing bonding social capital means by organizational HIV/AIDS involvement indicated a significant difference (p-value <.001), with organizations involved with HIV/AIDS activities having lower levels of bonding social capital compared with organizations not involved with HIV/AIDS activities.

Bridging Social Capital

Using the full network of contacts for each organization, Table 4 presents the ERGM estimates of member heterophily controlling for gender, age and country of birth homophily. Significant estimates (p-value <.05) indicate that members from an organization have a tendency to name external contacts more than what would be expected at random. Twelve organizations had significant estimates for member heterophily (p-value <.001). More civic-oriented organizations had significant estimates of member heterophily compared with sanctuary-oriented organizations (62% vs. 44%). All five organizations (100%) involved in HIV/AIDS activities had significant estimates of member heterophily, compared with 47% of organizations not involved with HIV/AIDS. These results suggest a relationship between bridging social capital, civic-orientation and HIV/AIDS involvement.

Table 3. Bonding Social Capital, by Density, Reciprocity and Gender, Age and Birth Country Homophily

Org. ID	Density	Reciprocity	Gender Homophily	(s.e.)	Age Homophily	(s.e.)	Country Homophily	(s.e.)	Bonding Sum	Social Engagement Orientation	HIV/AIDS Activities
13	0.016	0.111	0.02	(0.23)	0.40	(0.24)	0.38	(0.22)	0	Civic	0
4	0.036	0.000	0.58	(0.40)	0.10	(0.43)	0.66	(0.39)	1	Civic	0
8	0.003	0.055	0.38***	(0.11)	0.90***	(0.12)	0.16	(0.11)	2	Sanctuary	0
9	0.009	0.042	0.31	(0.20)	0.41*	(0.21)	0.48*	(0.21)	2	Civic	2
11	0.012	0.170	0.34	(0.21)	-0.26	(0.24)	0.75***	(0.20)	2	Sanctuary	3
12	0.006	0.157	0.71***	(0.14)	-0.04	(0.10)	0.39**	(0.14)	2	Civic	5
14	0.022	0.287	0.02	(0.23)	0.40	(0.24)	0.38	(0.22)	2	Sanctuary	0
18	0.013	0.085	0.44	(0.28)	0.84***	(0.23)	1.15***	(0.23)	2	Civic	0
19	0.012	0.085	0.19	(0.19)	0.94***	(0.20)	0.47*	(0.21)	2	Sanctuary	0
3	0.008	0.081	0.23	(0.14)	1.23***	(0.14)	0.62***	(0.14)	3	Civic	0
5	0.008	0.121	0.36**	(0.13)	0.80***	(0.13)	0.66***	(0.12)	3	Civic	3
10	0.023	0.179	0.34	(0.20)	0.42*	(0.21)	0.22	(0.20)	3	Sanctuary	0
16	0.014	0.191	0.21	(0.14)	0.84***	(0.14)	0.29*	(0.24)	3	Civic	1
17	0.012	0.170	0.64**	(0.24)	-0.34	(0.27)	0.53*	(0.14)	3	Sanctuary	0
6	0.015	0.263	0.59***	(0.10)	1.07***	(0.10)	0.36***	(0.10)	4	Sanctuary	0
7	0.008	0.205	0.48***	(0.09)	1.55***	(0.09)	0.51***	(0.09)	4	Civic	0
15	0.036	0.235	0.01	(0.27)	0.67*	(0.27)	0.85**	(0.27)	4	Sanctuary	0
1	0.038	0.271	0.62***	(0.22)	0.60**	(0.22)	1.07***	(0.22)	5	Civic	0
2	0.032	0.378	0.44*	(0.18)	0.12***	(0.17)	1.46***	(0.18)	5	Sanctuary	0
20	0.019	0.347	0.82***	(0.19)	0.60**	(0.19)	0.76***	(0.21)	5	Civic	0

Table 4. Bridging Social Capital

Org. ID	Contacts	Religion	Heterophily Estimates	(s.e.)	Social Engagement Orientation	HIV/AIDS Activities
4	29	Buddhist	0.54	(0.43)	Civic	0
1	68	Buddhist	0.35	(0.24)	Civic	0
7	284	Christian (Evangelical)	0.02	(0.11)	Civic	0
15	45	Buddhist	-0.06	(0.41)	Sanctuary	0
10	78	Christian (Mainline)	0.05	(0.25)	Sanctuary	0
2	81	Buddhist	0.01	(0.21)	Sanctuary	0
14	154	Christian (Evangelical)	0.16	(0.13)	Sanctuary	0
6	228	Christian (Evangelical)	0.05	(0.11)	Sanctuary	0
13	83	Buddhist	0.60*	(0.24)	Civic	0
20	105	Christian (Evangelical)	0.58**	(0.19)	Civic	0
3	189	Christian (Evangelical)	0.56***	(0.15)	Civic	0
18	89	Buddhist	0.90***	(0.23)	Civic	0
17	98	Buddhist	0.99***	(0.22)	Sanctuary	0
19	104	Buddhist	0.57**	(0.21)	Sanctuary	0
8	341	Christian (Evangelical)	0.70***	(0.12)	Sanctuary	0
16	187	Christian (Mainline)	0.93***	(0.13)	Civic	1
9	116	Buddhist	0.96***	(0.20)	Civic	2
5	223	Christian (Evangelical)	0.79***	(0.13)	Civic	3
11	109	Buddhist	1.13***	(0.20)	Sanctuary	3
12	230	Christian (Mainline)	1.17***	(0.14)	Civic	5

DISCUSSION

The higher rates of religious affiliation among immigrants and the expansive role of immigrant religious organizations in community life point to immigrant religious organizations' potential as an influential site for health and HIV/AIDS education. However, not all immigrant religious organizations are open to non-religious activities or promoting stigmatized topics like HIV/AIDS. Our study examines if specific social engagement orientations and social network structures among Chinese immigrant religious organizations in New York City are associated with being more likely to be involved in HIV/AIDS activities. Extending Chin et al.'s (2011) qualitative study, we used survey and social network data to analyze three forms of social capital; 1) social engagement orientation; 2) bonding social capital and; 3) bridging social capital, which we hypothesize are associated with an organization's openness to engaging in new and controversial issues such as HIV/AIDS education.

Our results suggest that social engagement orientation and levels of bonding and bridging social capital are associated with HIV/AIDS involvement. Organizations involved in HIV/AIDS activities are more likely to be civic-oriented than sanctuary-oriented religious organizations. We also found support of a relationship between social engagement orientation and levels of bonding and bridging social capital. We found that both civic-oriented and sanctuary-oriented organizations had similar levels of bonding social capital, as measured by network density and reciprocity, and gender, age category and birth country homophily. However, we did not find similar levels of bonding social capital as hypothesized when comparing organizations with and without HIV/AIDS activities. We found organizations involved with HIV/AIDS activities to have lower levels of bonding social capital than those organizations not involved with HIV/AIDS. Finally, we found civic-oriented organizations were more likely than sanctuary

organizations to have higher bridging social capital, and organizations involved with HIV/AIDS activities more likely than organizations without HIV/AIDS activities to have higher bridging social capital, as measured by member heterophily.

These findings have two implications for health research and HIV/AIDS programming. First, most studies on religion and HIV/AIDS awareness have focused on the influence of religious leadership and doctrine on member attitudes towards HIV/AIDS (Bluthenthal et al. 2012; Derose et al. 2010; Lujan and Campbell 2006; Sutton and Parks 2013). Few studies have examined how the social network structure affects leadership attitudes and organizational policies to influence HIV/AIDS involvement. Our study suggests that the broad influence of religious organizations on immigrant life is not solely determined by top-down policies from leaders or religious doctrine, but may also be shaped by the relationships and exchange of ideas among religious members that form specific social network structures.

Social network analysis allows for an examination of how dependent ties between people influence organizational policies and individual attitudes. Network analysis also allows us to operationalize different forms of social capital within immigrant religious organizations that affect the everyday lives and opportunities of their members and the communities in which they are serving. More importantly, our use of ERGMs allows our analysis to move beyond the descriptive to uncover some of the generative processes that underlie network structures, which in turn, affect social engagement orientations and HIV/AIDS involvement.

Second, our study provides additional intervention-related access points for HIV/AIDS collaborations that do not solely involve engaging with religious leadership or assuming willingness based on religion or denomination. Our results suggest that identifying a member who is well bonded with other members as well as being a strong bridge to outside contacts may

be effective in influencing the organization to become involved in HIV/AIDS activities. They also suggest that governmental and community health organizations interested in partnering with religious organizations might invest in developing social network bridges that, over time, may influence organizational policies and individual attitudes within religious organizations. This may in turn lead to more willingness among organizational members and leadership to be involved in HIV/AIDS activities.

Our results can also help assess organizational readiness for HIV/AIDS involvement, thus allowing health and HIV/AIDS community partners, with limited resources, to prioritize and tailor their collaboration and outreach efforts with religious organizations. We conducted separate analysis, not shown, that underscores Chin et al.'s (2011) finding that there is no pattern between religion type and HIV/AIDS involvement. Civic-oriented Buddhist and Christian organizations resembled each other more than they resembled organizations of their own religion type. There were equal numbers of Buddhist and Christian organizations with high bridging heterophily. Among the Christian organizations, many with significant heterophily estimates were from the more conservative Evangelical denomination.

Since religious organizations are an important place of refuge and resources for immigrants, we hypothesized that all the organizations in our sample, regardless of social engagement orientation or HIV/AIDS involvement, would have similar levels of bonding social capital. We found similar levels of bonding social capital between civic and sanctuary-oriented organizations, but we did not find similar levels between organizations with and without HIV/AIDS activities. Why do religious organizations involved with HIV/AIDS activities have less bonding social capital among their members? One explanation is that organizations involved with HIV/AIDS may offer a wider range of secular services given that few organizations would

start non-religious programming with HIV/AIDS education. Because of the wide array of religious and secular activities, the bond among members and their external contacts may not be limited to those who "would go to each other to make a decision or discuss a concern". The network bond can include people who share in the variety of services offered in the organization and in the community in which feelings of belonging are fostered, but close friendships may be made elsewhere.

Stovel, Golub and Milgrom (2011) posit a concept of organizational grafting that explains how an organization with high bridging social capital maintains a cohesive bond among its members. Organizational grafting occurs when secondary activities occur under an organization's main purpose. When people can coordinate alternative interactions or transactions under the umbrella of an organization's official mission, the organization and its members both play roles in bonding and bridging. This grafting of diverse bridging activities (e.g. HIV/AIDS education) on top of unified activities (e.g. religious service) creates a more valued exchange that increases organizational commitment among its members who appreciate access to secondary resources. This grafting of organizational priorities and activities brings more diverse people together who have multiple forms of relationships that influence receptiveness towards new or controversial ideas without eroding the ability to trust each other or maintain a sense of belonging.

The findings in this study should be considered with some limitations. First, the cross-sectional nature of the data limits the ability to address issues of causality in the association between social engagement orientation, bonding and bridging social capital and HIV/AIDS involvement. Second, the sample size of 20 religious organizational networks limits the generalizability of our findings. Third, our data was collected with one group, immigrants of

Chinese descent, thus limiting the generalizability of our results to other immigrant groups. The study's findings might be most relevant to communities that are marginalized and somewhat isolated from mainstream social networks (e.g., smaller immigrant groups, communities of color) or to smaller villages and towns – both in the U.S. and abroad – where the entire community's social network is relatively bounded. Fourth, our focus on HIV/AIDS involvement as a dichotomous measure does not address the importance of examining the number and type of HIV/AIDS activity and whether the activities were successful and effective in disseminating HIV/AIDS education or decreasing HIV/AIDS stigma. For example, specific approaches and types of HIV/AIDS messaging might be related to religion type or denomination. Future research should investigate how social network structures influence the selection and effectiveness of specific types of HIV/AIDS activities in different religious settings (e.g. sermons, workshops, counseling services), the types of messages promoted (e.g., promoting abstinence, using a non-judgmental approach towards homosexuality), and the number of HIV/AIDS activities.

Despite these limitations, our analysis suggests that specific organizational contexts of social engagement orientation, and relational contexts of social network structures, are associated with HIV/AIDS involvement among immigrant religious organizations. Our study highlights the importance of looking below the surface of religion and religious leadership to better understand how member social networks and social capital affect organizational receptiveness to HIV/AIDS activities.

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