Employment Networks in a High-Unemployment Rural Area

Jenine K. Harris
Washington University in St. Louis
St. Louis, Missouri

Ellen Barnidge
Saint Louis University
St. Louis, Missouri

Elizabeth A. Baker
Saint Louis University
St. Louis, Missouri

Freda Motton
Saint Louis University
St. Louis, Missouri

Catherine Radvanyi
Saint Louis University
St. Louis, Missouri

Frank Rose
Saint Louis University
St. Louis, Missouri

Abstract
Higher rates of unemployment are found among African-American men in rural communities in the US. As part of a community-based participatory research project, we sought to identify characteristics of job-seeking networks of African-American and white employed and unemployed men and women in a rural community in Missouri. We collected cross-sectional quantitative and qualitative information about job-seeking networks through in-depth interviews with 39 local residents. Descriptive network measures were used to compare the gender, race, and employment status of the people comprising participant job-seeking networks. A novel network approach was used to simulate a whole network from individual networks depicting likely patterns of job-seeking relationships across the community. Unemployed participants had larger networks, with the exception of white women. Men had more racially homogenous networks than women; many networks had no racial diversity. Men had longer relationships than women, while women had stronger relationships. Employed participants had more linkages to alters with connections to community organizations than unemployed participants. Unemployed participants had many connections, but lacked connections to the right people and organizations to aid in their job search. Increasing employment opportunities in this community, and similar communities, will require effort from job-seekers and others to develop new relationships, programs, and policies.

Keywords: employment, social networks, rural, race

Authors
Jenine K. Harris, George Warren Brown School of Social Work, Washington University in St. Louis.

Elizabeth A. Baker, Saint Louis University College for Public Health & Social Justice.

Catherine Radvanyi, Saint Louis University College for Public Health & Social Justice.

Ellen Barnidge, Saint Louis University College for Public Health & Social Justice.

Freda Motton, Saint Louis University College for Public Health & Social Justice

Frank Rose, Saint Louis University College for Public Health & Social Justice.

Notes
This research was supported by a grant from the United States National Institutes of Health National Center on Minority Health and Health Disparities (NIH CMHD 5R24MD001590-06; EA Baker, PI). The authors would like to acknowledge the invaluable contributions of our participants and partners in Pemiscot County, Missouri.

Correspondence concerning this work should be addressed to Jenine K. Harris, George Warren Brown School of Social Work, Washington University in St. Louis, St. Louis, MO 63130, 314-935-3522, Email harrisj@wustl.edu

1. Introduction

Social ties and social capital have been identified as important in job-seeking (Granovetter, 1983; Lin, Cook, & Burt, 2001). The strength of an individual's social ties and the characteristics of the people they are connected to including race, gender, social class, and presence of social capital, are important to understanding the influence of these ties on employment. First, weak social ties (e.g., acquaintances and friends-of-friends) may be beneficial in job-seeking because they bring new information to a relationship. Stronger social connections tend to be among individuals who have similar characteristics, similar connections, and similar information. Weak ties tend to act as bridges between strongly connected groups which carry new information between the groups (Friedkin, 1980; Granovetter, 1983; Wegener, 1991).

Different demographic groups tend toward different types of ties in their personal social networks which may influence the effectiveness of social ties for influencing employment (McDonald, 2009; Wegener, 1991). Specifically, men tend to have larger networks comprised of other men and non-kin (weaker ties), while women have more kin (stronger ties) in their networks. African-Americans may have less diverse and smaller networks than whites, thereby limiting access to new information (Lin, 2000). As a result of these patterns, women and minorities tend to receive significantly fewer job leads than white men from their social networks (McDonald, 2009).

Having weak social ties is not always an indicator of the ability to obtain job information; social class and race can influence the usefulness of weak ties in job-seeking. Individuals who have held higher status jobs in the past tend to benefit from their weak ties while those who have held lower status jobs may not (McDonald, 2009; Wegener, 1991). One examination of job-seeking among the African-American urban poor in the US found that, contrary to findings regarding network size in Lin (2000), this population has large social networks but face challenges mobilizing social ties for the purposes of employment (Smith, 2005).

Access to social capital as a function of social ties can also influence job-seeking. Social capital refers to the structure and content of social relationships that provide resources including information about, or access to, job opportunities (Coleman, 1988; Portes, 1998; Lin et al., 2001). For example, African-American men are less likely to have ties with individuals in authority positions who could help them obtain higher level management positions (McDonald, 2009). Social capital is created when social connections are characterized by trust and reciprocity (Abbott, 2008; Kunitz, 2004). An individual may have social capital as a result of person-to-person ties with similar people such as family, friends, neighbors, close acquaintances (sometimes referred to as *horizontal* social capital) or through ties with individuals and organizations that are different (sometimes referred to as *vertical* or bridging social capital) (Kunitz, 2004). People who live in areas where there is less trust and reciprocity reported by residents (low horizontal social capital) and lack access to vertical social capital are likely to have fewer employment opportunities compared to those who live in high social capital areas (Hawe, 2000; Kawachi, Kennedy, & Glass, 1999; McDonald, 2009).

While there has been a great deal of attention to the role of social ties and social capital in employment, most studies focus on urban settings or have not differentiated between urban and rural residents. The focus on rural communities is particularly important in the US given high rates of poverty and unemployment in these areas, and inherent limitations on the number and types of employers (http://www.dailyyonder.com/rural-unemployment-soars-january/2010/03/30/2667). It is important to note that within the US unemployment rates vary by race and gender. The unemployment rate for black men in the US in 2010 was 18.4%, this is higher than for black women (13.8%), white men (9.6%),white women (7.7), Hispanic men (12.7%), and Hispanic women (7.7%) (Bureau of Labor Statistics, 2010).

Men on the Move (MOTM) is a community-based participatory research project located in a rural African-American community in the state of Missouri and is funded by the National Institute for Minority Health and Health Disparities. One focus of MOTM is to understand and address barriers to employment for African-American men in this community with the distal goal of improving health. As with other parts of the country, men living in rural communities in Missouri are likely to have higher rates of unemployment than their urban counterparts (http://health.mo.gov/living/families/ruralhealth/pdf/biennial2011.pdf). In order to better understand the social ties and social capital of African-American men in a rural setting, and compare their social networks to others in their community, we address three specific research questions:

1. What are the characteristics of job-seeking networks in a rural county with high unemployment?
2. How do the job-seeking networks of employed and unemployed, African-American and white, male and female residents differ?
3. What is the role of social capital in these job seeking networks?

2. Methods

Data Collection

Using the mixed-methods network approach, *net-mapping*, developed by Eva Schiffer (http://netmap.wordpress.com/), we trained four residents of rural Pemiscot County, Missouri to conduct interviews with local residents about their most recent job search. With a goal of conducting interviews with five residents from each of eight groups (Table 1), interviewers recruited 39 county residents through local churches and local unemployment and job centers.

Interviewers worked with each participant to draw a network depicting the individuals and organizations they identified in response to this prompt: *Who was involved in your most recent job search?* As the participants were answering the prompt, each individual or organization was added to a sheet of paper with the participant shown in the middle. For the purposes of describing the job-seeking networks, each participant is the ego and each individual or organization a participant identified is an alter. This approach to data collection is ego-centric; it essentially results in a network for each participant centered around the ego. Each alter was recorded on a color coded post-it note to identify whether the alter was male, female, or an organization/website. The participant then indicated whether each alter was a family member, friend, or professional tie. Participants were asked if they trusted each alter, the level of influence the alter had on their job search, and the employment status of the alter. Finally, participants were asked to indicate whether their alters knew one another. The resulting networks looked like those shown in Figure 1.

In addition to drawing their job-seeking network, each participant was asked to complete two questionnaires: one about themselves and one about their alters. Both questionnaires included demographic information. The alter questionnaire also included questions about the length of relationships in years. Strength of ego-alter relationships was also assessed by asking: *How well do you know [alter name]?* with response options ranging from 1 to 5, where 5 is "very well." To assess social capital, participants were also asked if named alters could connect them with other people or organizations in the community that might help in the job search. To obtain this information participants were asked: *Next, we are interested in the extent to which people you named have relationships with someone that might help you or others find jobs. Does [name of alter] have a relationship with the schools or parent teacher organizations?* The question was repeated for local business, community group, church, bank, school board, city council, and police department/fire department. Each mapping and survey process took approximately one hour. The Saint Louis University Institutional Review Board approved this study.

Data Analysis

Descriptive statistics and ego network visualization (e.g., Figure 1) were used to examine and compare the size, composition, and relationship structures across the job-seeking networks. To further explore patterns identified across participant networks, a novel technique using exponential random graph modeling (ERGM) to simulate a whole network from ego-centric network data was also used to examine patterns of connections across this community (Krivitsky, Handcock, & Morris, 2011). By following Krivitsky and colleagues (2011) and a 2011 tutorial by Krivitsky and others (https://statnet.csde.washington.edu/trac/raw-attachment/wiki/Resources/ERGMtutorial.pdf), aggregate data from sampled ego-networks can be used to statistically examine patterns of connections across a population. Organizations and websites were not included in this analysis since they do not have the characteristics of interest (gender, race, employment status).

To derive a whole network from the 39 ego networks, we first entered the number of network

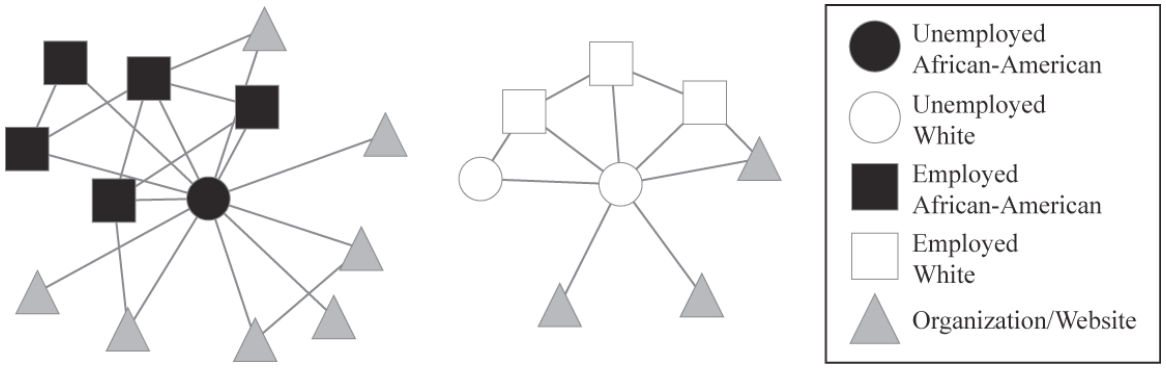


Figure 1. Examples of participant job-seeking networks showing an unemployed African-American woman (left) and an unemployed white man (right).

members for each of the eight groups (e.g., unemployed white men, employed white women, etc.) into the procedure. Because we over-sampled unemployed and African-American residents, the data were weighted so that the composition of the network would accurately represent the proportion of people in each of the eight categories among Missouri residents as of 2010 (http://www.bls.gov/cps/). State-level estimates were the closest geographic level available for estimates of race by gender by employment status. Unemployment rates in 2010 for Missouri were: black men 16.5%, black women 14.3%, white men 9.3%, and white women 8.0%. Table 1 shows the number of human egos and alters for each characteristic of interest across the 39 ego networks (n), the weighting to ensure the resulting whole network has the same composition as the state, and the resulting proportion of the whole network with each characteristic of interest (Adjusted n). The weighting column is a ratio of the proportion of the characteristic in the sample to the proportion of the characteristic among residents of Missouri.

In addition to the number of each type of network member, we entered the number of connections between each of the eight groups, also weighted using the Table 1 weights. To model the propensity for homophily (the tendency for like network members to connect with each other) by gender, race, and employment status, we entered the sum of the weighted ties that were between network members of the same employment status, race, and gender. Finally, the sum of weighted ties going to unemployed, African-American, and male network members was entered in order to model the likelihood of being sought for job advice in these three groups. In addition, because the average number of human ties for an ego was 4, we specified approximately 4 job-seeking ties per network member for the whole network.

Once the summary statistics for the number of network members and their patterns of ties were entered, a statistical model (ERGM) was generated to predict the likelihood of a tie between any two community members based on the summary statistics. We built the network starting with a null model that only accounts for the overall number of ties in the network, added homophily terms, and added variables to account for incoming ties for male, unemployed, and African-American residents.

Model fit was assessed by simulating whole networks from the null, homophily, and full models and comparing their summary statistics to the summary statistics for the observed data. Simulated networks represent job-seekers with directed ties between them. For example, for network members A and B, the relationship A -> B indicates that A contacted B. Outgoing ties, therefore, represent contacting someone and incoming ties represent being contacted. The characteristics of the simulated whole networks were examined to determine if the patterns of ties were consistent with those seen across the ego networks for each step of model building. In this case we simulated 200 networks based on each model and compared summary statistics across the simulated networks to the observed data. Once model fit was deemed acceptable, we interpreted model results and compared the results to patterns seen in the descriptive statistics for the ego networks.

3. Results

Participants were 32 years old on average and many (25.7%) had less than a high school education. Unemployed participants had lower levels of education; there was no notable difference in age between employed and unemployed participants. White women and African-American men had been unemployed the longest on average; 15 and 12.5 months, respectively.

Table 1: Weighting of network member types to represent proportion of Missouri population in the network model.

Subgroup	Observed n	Weighting	Adjusted n for model
Employed African-American men	38	.59	22
Unemployed African-American men	14	.32	4
Employed African-American women	41	.63	26
Unemployed African-American women	14	.31	4
Employed white men	29	2.14	62
Unemployed white men	12	.47	6
Employed white women	34	2.05	70
Unemployed white women	20	.27	5
Total	202		202

Describing the Networks

Network size and composition. The average number of alters in a job-seeking network was 7.4, with a range of 3-14. Networks had between 2 and 11 alters who were people with the rest of each network comprised of websites and organizations used during job-seeking. The overall size of the job-seeking networks differed by gender, race, and employment status. White men had the smallest networks, with 5.6 alters for employed white men and 6.3 alters for unemployed white men. Unemployed African-American men and unemployed African-American women had the largest networks with 9.2 alters on average. Table 2 describes the composition of an average ego-network in each group. On average, unemployed egos had a higher proportion of employed alters compared to employed egos, with the exception of employed African-American men, who had few unemployed alters.

Tie strength. Unemployed African-American women and employed African-American men had the longest and strongest relationships on average while unemployed white men had the shortest relationships and unemployed African-American men had the weakest relationships. Unemployed women had longer and stronger relationships on average than their employed counterparts, while the opposite was true for men. Alters in the job-seeking networks of men regardless of race or employment status had approximately the same number of ties to other alters, while alters in the networks of employed women had more alter-alter ties than alters in the networks of unemployed women. Having more ties among alters may be an indicator that a job seeker has a strongly connected cluster of friends, family, and others.

Alter types. Employed white women and employed white men had the most unemployed in their networks. Employed women had more family ties than unemployed women, while unemployed white men had the most family ties in their networks. The networks were relatively racially homogenous; the most race diversity was seen in the job-seeking networks of employed African-American women egos, who had 24.5% non-African-American alters. Unemployed African-American women had no white alters, while unemployed white men had only white alters. Men egos had a majority of men alters, while women egos tended to have women alters.

Social capital. Alters of employed African-American men and white women had the most community ties on average, while alters of the unemployed generally had fewer community ties. The exception to this was unemployed African-American men whose alters had more community ties than most other groups.

Statistical network modeling

A statistical model was generated based on the characteristics of the egos and alters, along with aggregate information about the patterns of ties between egos and alters across the 39 observed networks (Table 3). Homophily terms demonstrated that the likelihood of a tie increased between two community members of the same sex (OR=1.91; 95% CI: 1.59-2.29) and same race (OR=20.76; 95% CI: 15.91-27.09), but decreased between community members of the same employment status (OR=.42; 95% CI: .33-.53). In contacting others during job seeking, holding the rest of the network constant, community members were more likely to have contact with someone of the same gender and race, but less likely to have contact with someone of the same employment status. Holding all else constant, job-seekers were more than twice as likely to contact unemployed community members (OR=2.73; 95% CI: 2.08-3.59) compared to employed, and were 75% less likely to contact African-Americans (OR=.25; 95% CI: .21-.29) compared to whites. Being male did not influence the likelihood of being contacted compared to being female, all else held constant (OR=1.02; 95% CI: .86-1.21).

To assess model fit, we compared the target statistics from 200 networks simulated from each model with the observed target statistics. Averaged target statistics from the 200 simulated networks were within 6% of the observed target statistics across all the models during the model building process (Table 3). For example, the 200 simulated networks for the full model had an average of 349.1 ties for employment homophily, while the observed network data entered had 344 ties with employment homophily. Visualizing simulated networks during model building demonstrates the extensive homophily by race in this community (Figure 2). The null model simulated network (Figure 2a), which only accounted for the total number of ties in the network, shows many connections between whites and African-Americans. Simulations from the other two models demonstrate that, once homophily is accounted for, the networks appear segregated. In the full model the added terms for incoming ties appeared to increase the density of ties within race groups (Figure 2c).

When comparing the ERGM results to the descriptive statistics in Table 2, the model results capture many of the descriptive patterns demonstrated and provide additional information. For example, in Table 2, most connections were between two community members of the same race. The strong positive homophily term for race in the model captures this propensity for whites to connect to other whites and African-Americans to

Table 2: Composition of job-seeking networks for 39 residents of a rural county in Missouri

		Unemployed Men		Employed Men		Unemployed Women		Employed Women	
	Total	African-American	White	African-American	White	African-American	White	African-American	White
Network composition (n)									
Alters	7.4	9.2	6.3	6.8	5.6	9.2	7.0	7.5	7.0
People	4.4	4.4	3.5	4.0	3.4	4.0	4.8	5.7	5.0
Organizations	2.0	3.8	2.0	2.3	1.4	2.6	1.4	1.7	1.0
Websites	.9	1.0	.8	.5	.8	2.6	.8	.2	1.0
Tie strength (mean)									
Relationship length in years	18.4	17.7	8.1	20.7	22.3	22.8	12.0	17.4	11.1
Relationship strength	4.3	3.3	3.5	4.5	4.3	4.5	4.2	4.1	3.7
Alter-alter ties per alter	.8	.6	.6	.6	.6	.8	.4	1.4	1.1
Alter type (% of human alters)									
Family	52.6	52.8	79.2	54.2	41.3	42.0	42.3	69.7	50.4
Friend	84.2	91.0	91.7	70.8	85.3	100.0	82.4	88.6	64.7
Professional	16.4	1.7	0.0	25.0	17.4	0.1	6.7	26.9	32.0
Unemployed	22.8	28.6	28.8	12.5	34.7	10.0	10.5	20.7	34.9
Male	47.9	67.1	56.3	70.8	65.3	37.0	22.3	33.1	40.4
African-American	50.3	84.3	0.0	100.0	0.1	100.0	15.2	75.5	8.6
Alter social capital (mean)									
Community ties per human alter	2.9	2.4	1.3	4.2	3.8	2.5	3.0	2.5	3.7

connect with other African-Americans. In the observed data, women's networks included more alters overall and were, on average, more gender homogenous than the men's networks, resulting in more women than men being contacted during job searches. However, , after accounting for gender homophily, men were no less (or more) likely to be contacted during the job search in the network model.

4. Discussion

The job-seeking networks revealed numerous differences between unemployed and employed, African-American and white, men and women in this rural community. With the exception of white women, unemployed participants had larger job-seeking networks than employed participants. Men had more racially homogenous networks than women, and several of the groups had no race diversity in their job-seeking networks at all. Men had longer relationships overall than women while women had stronger relationships on average. The employed participants generally had higher vertical social capital (more connections to organizations in the community) than unemployed. Although the unemployed had more employed partners in their networks, vertical social capital was lower for unemployed participants. The network modeling confirmed several of these patterns, including extensive homogeneity of race in job-seeking networks. Broadly speaking, unemployed participants appeared to be well-connected, but lacking in connections to the right people and organizations to aid in their job search.

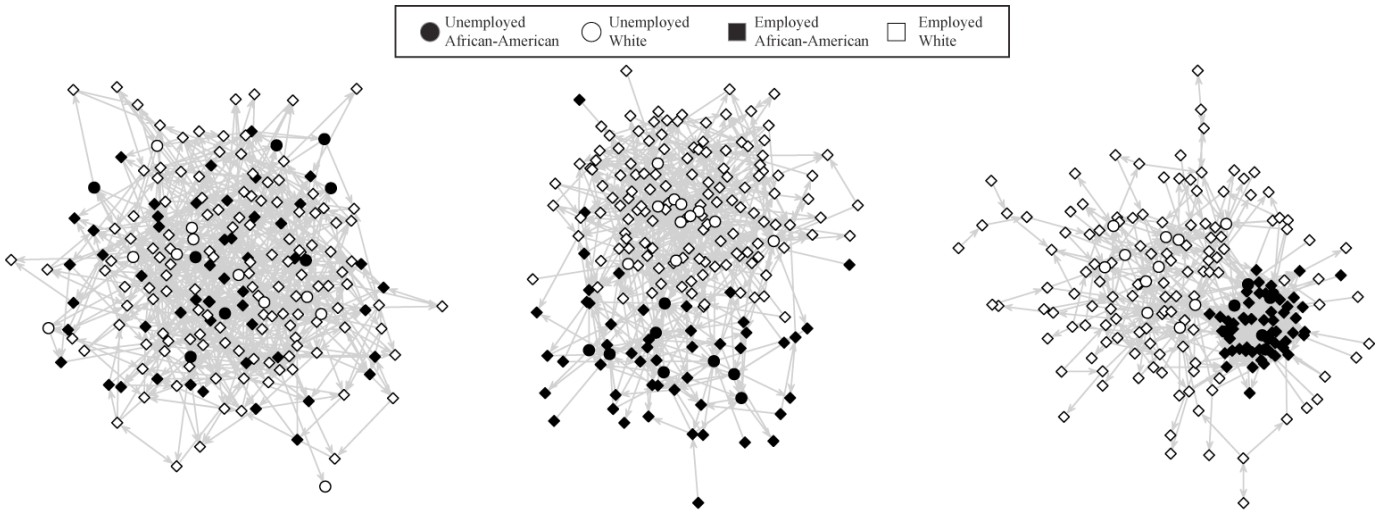
The findings suggest several strategies that may reduce employment disparities in rural communities. First, job obtainment for African-American men in particular may have less to do with the size of their job-seeking network and more to do with the specific connections these job-seekers and their personal networks have to local infrastructures. Our first recommendation is that these job-seekers purposefully seek to connect with community members who are employed by, or otherwise involved with, local organizations.

Second, based on comments made during interviews it could also be that unemployed African-American men are connected to others who are unwilling to recommend them for hire, which is consistent with past research (Smith, 2005). Our second recommendation is that local employers in rural communities provide job shadowing, apprenticeship, or other temporary opportunities so that individuals can demonstrate reliability when they lack references.

Finally, the extensive race homophily in the job-seeking networks may be a factor in reduced job opportunities for African-American men. There are few African-American owned businesses in this community (Barnidge, Baker, Motton, Fitzgerald, & Rose, 2011); most employers tend to be white. If African-Americans most often connect with other African-Americans in job-seeking, they may not have direct connections to those who have access to available jobs. While developing connections with the current business owners is important, our final recommendation is for the community to also increase opportunities for entrepreneurship by local African-American residents which could result in more access to jobs through existing patterns of connections.

Table 3: The likelihood of a job-seeking connection between two network members in a rural Missouri county (bold indicates statistically significant)

	Null	Homophily	Full
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Edges	**.02 (.02-.02)**	**.01 (.01-.01)**	**.01 (.00-.01)**
Homophily			
Employment		**.20 (.17-.23)**	**.42 (.33-.53)**
Race		**8.23 (6.26-10.82)**	**20.76 (15.91-27.09)**
Sex		**1.81 (1.55-2.11)**	**1.91 (1.59-2.29)**
Incoming ties			
Unemployed			**2.73 (2.08-3.59)**
African-American			**.25 (.21-.29)**
Male			1.02 (.86-1.21)
Model fit			
% target statistics	97.7	96.4	94.1
AIC	6732.3	5957.6	5176.4



(a) Simulated from null model (b) Simulated from homophily model (c) Simulated from full model

Figure 2. Simulated whole networks of job-seeking relationships among 200 residents of a rural county with high unemployment. Networks are single simulations from the (a) null, (b) homophily, and (c) full ERGM models shown *in Table 3*.

Limitations

There are several limitations that need to be considered. During recruitment, unemployed participants were selected by going to local agencies and organizations that support individuals in their job-seeking activities. While there is little information on demographic differences between those who use in-person employment agencies and those who do not, there is some evidence that, at least in urban areas, accessibility to these organizations may vary by race and age (Joassart-Marcelli & Giordano, 2006). We purposefully selected individuals based on race and average age was consistent across employed and unemployed participants, so these differences may not apply in our study. However, there may be other differences that we are not aware of between the unemployed who use services and those who do not use (or are no longer using) employment services.

Similarly, our sampling of employed individuals may be biased. We obtained our sample of employed individuals from local churches. Churches often provide strong referral networks for job seekers and may also use reputational capital to support job seeking church members (Putnam, 1993). Those who attend churches in rural communities with limited job opportunities and smaller areas of influence are likely to have stronger job referral networks compared to those who do not which may bias our sample toward the employed having more and stronger job-seeking ties than other employed individuals in the community. In addition, churches

tend to lack racial diversity, especially in rural areas (Dougherty, 2003) This suggests the potential for a lack of racial diversity in the job-seeking networks of those we recruited in churches. Specifically, the employed participants recruited in churches may have more racially homogenous job-seeking networks than the general population of employed residents in Pemiscot County. The small number of egos interviewed may exacerbate these potential biases.

There are also limitations to the way we collected and analyzed our data. For example, we asked egos to identify if alters had connections to certain local infrastructures. It is possible that alters had such connections but this was unknown by the ego, or they used to have such connections but do not any longer. This may have under or overestimated vertical social capital. In terms of analysis, using state data to weight our findings likely results in underestimating unemployment which is higher in many rural areas within Missouri than the overall state rate may indicate.

Conceptually, another limitation to our approach is that we focus on network influences on employment, but do not examine the specific role of either interpersonal or structural racism (such as hiring practices or zoning) on employment opportunities within rural communities.

5. Conclusion

Increasing opportunities in this community, and other similar communities, to address high unemployment and its consequences will require effort from the job-seekers and others to develop new relationships, programs, and policies. As a first step toward implementing our recommended strategies in Pemiscot County, MOTM academic and community staff are working to aid unemployed residents in enhancing their social connections.

References

Abbott, S. (2008). Social capital and health: Starting to make sense of the role of generalized trust and reciprocity. *Journal of Health Psychology*, 13(7), 874-883.

Barnidge, E. K., Baker, E. A., Motton, F., Fitzgerald, T., & Rose, F. (2011). Exploring community health through the sustainable livelihoods framework. *Health Education & Behavior*, 38(1), 80-90.

Bureau of Labor Statistics (2010). Unemployment rates by race and ethnicity. Retrieved May 22, 2013, from http://www.bls.gov/opub/ted/2011/ted_20111005.htm.

Coleman, J. S. (1988). Social capital in the creation of human capital. *The American Journal of Sociology*, S95-S120.

Dougherty, K. D. (2003). How monochromatic is church membership? Racial-ethnic diversity in religious community. *Sociology of Religion*, 64(1), 65-85.

Friedkin, N. (1980). A test of structural features of granovetter's strength of weak ties theory. *Social Networks*, 2(4), 411-422.

Granovetter, M. (1983). The strength of weak ties: A network theory revisited. *Sociological Theory*, 1(1), 201-233.

Hawe, P. (2000). Social capital and health promotion: A review. *Social Science & Medicine (1982)*, 51(6), 871.

Jackson, P. B., & Williams, D. R. (2006). The intersection of race, gender, and SES: Health paradoxes.

Joassart-Marcelli, P., & Giordano, A. (2006). Does local access to employment services reduce unemployment? A GIS analysis of one-stop career centers. *Policy Sciences*, 39(4), 335-359.

Kawachi, I., Kennedy, B. P., & Glass, R. (1999). Social capital and self-rated health: A contextual analysis. *American Journal of Public Health*, 89(8), 1187-1193.

Krivitsky, P. N., Handcock, M. S., & Morris, M. (2011). Adjusting for network size and composition effects in exponential-family random graph models. *Statistical Methodology*, 8(4), 319-339.

Kunitz, S. S. J. (2004). Social capital and health. *British Medical Bulletin*, 69(1), 61-73.

Lin, N., Cook, K. S., & Burt, R. S. (2001). *Social capital: Theory and Research* Transaction Publishers.

Lin, N. (2000). Inequality in social capital. *Contemporary Sociology (Washington)*, 29(6), 785-795.

McDonald, S., Lin, N., Ao, D. (2009). Networks of opportunity: Gender, race, and job leads. *Social Problems (Berkeley, Calif.)*, 56(3), 385-402.

Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology*, 24(1), 1-24.

Putnam, R. (1993). The prosperous community: Social capital and public life. *The American Prospect*, 13(Spring), Vol. 4. Available online: http://www.prospect.org/print/vol/13.

Smith, S. S. (2005). "Don't put my name on it": Social capital activation and Job-Finding assistance among the black urban poor. *The American Journal of Sociology*, 111(1), 1-57.

Wegener, B. (1991). Job mobility and social ties: Social resources, prior job, and status attainment. *American Sociological Review*, 56(1), pp. 60-71.