SOCIAL CAPITAL IN RURAL AND URBAN COMMUNITIES: TESTING DIFFERENCES IN MEDIA EFFECTS AND MODELS

By Christopher E. Beaudoin and Esther Thorson

This study examines whether the effects of the mass media on social capital and related processes vary between rural and urban communities. A distinction is made between indicators of social networks (association membership and neighborliness), social trust (interpersonal trust and community trust), and pro-social behaviors (voting and volunteering). We test nonrecursive structural equation models with manifest and latent variables on rural and urban U.S. samples. Media effects differ by medium and by community type. Newspaper use has positive effects in each model, while those of entertainment TV viewing are negative. Local TV news use has positive effects in only the urban model, while network TV news use has positive effects in only the rural model. In addition, there is a reciprocal relationship between social networks and social trust in the rural model, while the relationship is linear—from social networks to social trust—in the urban model.

The nexus between communication and community has long been at the center of research in different fields, including mass communication, sociology, political science, and public health. One stream of research has relied on the concept of community integration,[1] defined in terms of social relations at the personal and societal levels[2] and as the "set of relations and processes that tie communities together and direct their change."[3] Researchers in this area view social ties in terms of objective community-level relationships. Another stream of research has focused on the concept of social capital.[4] Putnam defined social capital as the "connections among individuals—social networks and the norms of reciprocity and trustworthiness that arise from them."[5] Researchers in this area view social ties and related perceptions at the individual and aggregate levels.

Although the concepts of community integration and social capital are not identical, research in both streams suggests the important role that social networks and social trust play in the United States, with some of the operational definitions used in the community integration literature similar to those found in the social capital literature.

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Putnam popularized social capital in the 1990s with his contention that it was on the decline in the United States.[6] Scholars have pointed out two antecedents that may explain the decreases in social capital: mass media use and community type. Putnam, in part, blamed television viewing.[7] He argued that the more time people devote to television, the less time they have to interact with other people and participate in society. Other scholars have challenged this contention, indicating the importance of media content.[8] Researchers have found that social capital is negatively associated with general and entertainment TV viewing, but positively associated with newspaper and TV news use.[9] This positive role of news shares commonality with research in civic journalism. Scholars in that area argue that the news media can foster democratic communities, democratic discussion, and public life.[10]

Another explanation for the decline of social capital involves community type. Research over the years has indicated that rural communities have higher levels of social integration and attachment than urban communities.[11] For example, Sampson demonstrated that urbanization had a negative association with local friendship ties and attachment at the collective level and with local friendship ties and attachment to community at the individual level.[12] More recently, Putnam contended that urban areas, because they are "less congenial to social connectedness," have lower levels of social capital than rural areas.[13] He found that people in rural areas are more likely than people in urban areas to volunteer, work on community projects, come to the aid of a stranger, and donate blood.

Although these studies explain the roles that mass media use and community type play in affecting social capital, not one study could be located that compares mass media effects on the social capital and related processes for rural and urban Americans. This leaves an important question to be answered. Do the effects of the mass media on social capital and the related processes differ between rural and urban communities?

To address this question, we distinguish indicators of social networks (association membership and neighborliness), social trust (interpersonal trust and community trust), and pro-social behaviors (voting and volunteering). We articulate and test a model that views social capital as the reciprocal relationship of social networks and social trust, an approach similar to that of Brehm and Rahn and Shah.[14] We examine the influence of the mass media, in terms of news use and entertainment TV viewing, on social networks and social trust, and the influence that these measures have on pro-social behaviors.

Literature Review

Social Capital. Bourdieu defined social capital as "the aggregate of the actual or potential resources which are linked to the possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition."[15] Important here is the idea that social networks and relationships are the source of important social resources. The efficacy of social resources and relationships, however, is negligible in the absence of social trust.[16] Social trust is "the lubricant of

the inevitable frictions of social life."[17] It should also be noted that access to social relationships and resources is not enough to bring about productive outcomes. In contrast, people need to mobilize their social networks, thus, putting to use their social contacts and resources.[18] Such mobilization can lead to the sharing of information, coordinating of activities, and making of collective decisions.[19] We view social capital as a combination of these prevailing conceptualizations. Social capital is the actual or potential resources that result from the social networks and social trust that people share, which, when mobilized, can bring about positive behaviors and outcomes at the individual and collective levels.

Social capital has been operationally measured in terms of social or interpersonal trust, association membership, perceptions of place, government trust, volunteering, voting, political participation, and neighborliness.[20] This approach has been critiqued as being ambiguous and loose.[21] As Putnam points out, voting is a problematic measure of social capital because it is a behavior that is done alone, and government trust represents people's relationships with political institutions—not their relationships with other people.[22] In addition, volunteering involves doing something "for" other people, not doing something "with" other people. Also problematic is the mixing of different types of social capital measures to make up comprehensive social capital indexes.[23] In contrast, we break this array of operational measures into three groups: (1) behavioral measures connoting social networks, such as neighborliness and association membership; (2) attitudinal measures representing social trust, such as interpersonal trust and community trust; and (3) pro-social behavior measures, such as voting and volunteering.

The Development of Social Capital. The development of social capital has been articulated upon in two ways. One approach considers the development process in a linear manner. Scholars here have argued that trust creates an environment that is conducive to social interaction.[24] One of Lin's two social capital models exemplifies this approach.[25] The model has three causally linked concepts: (1) preconditions and precursors of social capital (which constitute norms and trust); (2) social capital elements (which involve social network locations and resources and the mobilization of such); and (3) possible returns of social capital (which include wealth, power, and health).

A second approach considers the development of social capital in a reciprocal or circular fashion. Brehm and Rahn and Shah viewed social capital to be the reciprocal relationship between interpersonal trust and civic engagement, with the latter concept taking form in civic and community participation that can breed social cooperation and coordination.[26] Brehm and Rahn found that interpersonal trust and confidence in government had reciprocal ties to one another and that both of these measures had significant paths to civic engagement. In contrast, Shah demonstrated that civic engagement influenced interpersonal trust.

Modeling social capital in this manner ties in with Lin's "homophily principle"[27] and Putnam's "virtuous" and "vicious" circles.[28] Lin posits reciprocal relationships between three concepts: activity/interaction (which represents social connections); sentiment (which involves trust); and resources (which constitute the actual social capital). Also postulat-

ing a circular model, Putnam explained how social capital begets social capital, creating a cycle that encourages social capital production for people who already have social capital, but social capital reduction for people who have little social capital. Thus, there is an ongoing series of effects from social trust to social networks to social trust to social networks, and so on.

Finally, social networks and social trust are expected to spur pro-social behaviors such as voting and volunteering. Related research indicates positive outcomes of social capital at the aggregate level, including good governance, democracy, economic progress, and public health;[29] and at the individual level, including supervising neighbor children, volunteering, and securing subsidized loans, investment tips, and occupational mobility.[30] For example, social connections can spur volunteering simply because people who interact more with others are asked to volunteer more often.[31]

Two Important Antecedents of Social Capital.

The Mass Media. News use is positively associated with social capital and pro-social behavior measures.[32] For example, Shah, Kwak, and Holbert found that television hard news use is positively associated with civic engagement, while newspaper hard news use is positively associated with civic engagement and interpersonal trust.[33] Importantly, Shah and his colleagues tested reciprocal paths between media use and various social capital indicators, finding that the main direction of influence was from media use to social capital.[34]

The influence of the news media on social capital takes place via an informational-symbolic dichotomy.[35] The news media provide people with opportunities to interact and information that can lead to deliberation and discussion, both of which can encourage civic participation and certain actions that benefit society. In addition, the news media can help hone a community's sense of identity. In these ways, the news media can spur social trust and social networks by focusing on positive aspects of community and democracy.[36]

In contrast, general and entertainment TV viewing have a negative correlation with social capital and pro-social behavior measures.[37] For example, Putnam asserted that each additional hour that people watch television per day leads to a 10% reduction in their civic participation.[38] The negative role of television viewing on social capital makes general sense in terms of cultivation analysis, which suggests that crime- and violence-laden TV images can invoke in people a mean vision of the real world.[39] Shah, however, found that civic engagement was negatively associated with science fiction viewing, but positively associated with social drama viewing.[40] In addition, viewing of science fiction and friendship sitcoms were both positively associated with interpersonal trust.

Community Type. Another important predictor of social capital and its related processes is community type. Although the movement of Americans to suburbs is of importance in terms of social capital, we focus on rural and urban communities, which have been shown to have various important differences.[41] Rural Americans have more children, more traditional household structures, stronger kinship links, and longer-

running friendships. As a result, social capital is stronger in rural communities than in urban ones.[42] Putnam demonstrated that people in large metropolitan areas belong to 10% to 15% fewer groups and attend 10% to 15% fewer club meetings than do people in other areas.[43] He concluded, "Metropolitans are less engaged because of where they are, not who they are."[44]

Hypotheses and Research Questions

Our review of the literature leads us to articulate four hypotheses and two research questions. As noted above, research suggests that people in rural communities have higher levels of social capital than people in urban communities.

> H1: People in rural communities will have significantly higher levels of social capital indicators than people in urban communities.

In addition, we expect that social capital and pro-social behaviors will have positive relationships with news use, but negative ones with entertainment TV viewing. Two related hypotheses consider the total effects of each media measure.

> H2: News use will be positively associated with social capital and pro-social behaviors.

> H3: Entertainment TV viewing will be negatively associated with social capital and pro-social behaviors.

What is not known, however, is whether media effects on pro-social behaviors will be direct or indirect, as mediated by social capital. With mediation, there would be three steps: (1) mass media use; (2) social capital; and (3) pro-social behaviors. Without mediation, the model would have two steps: (1) mass media use; and (2) social capital and pro-social behaviors. In light of these two possibilities, we articulate one research question.

> RQ1: Is the relationship between mass media use and pro-social behaviors direct or indirect, as mediated by social capital?

We also expect that social capital, regardless of its positioning in the model, will be positively associated with pro-social behaviors, such as voting and volunteering.

> H4: Social capital will be positively associated with pro-social behaviors.

We articulate another research question. It involves whether the links between mass media use and both social capital and pro-social behaviors—and the relationships among social capital measures and pro-social behaviors—vary by community type.

RQ2: Do relationships between mass media use and both social capital and pro-social behaviors and the related developmental processes differ between rural and urban communities?

Methods

The hypotheses and research questions were evaluated with data from telephone survey interviews of adults in two urban communities (Kansas City, $N = 781$; St. Louis, $N = 782$) and two rural communities (Hannibal, $N = 400$; Sedalia, $N = 400$) in Missouri. The two urban communities have respective populations of 1.7 and 2.6 million, and the two rural communities are located in counties with respective populations of 28,000 and 38,000.[45] The interviews were conducted by a professional survey center at a large U.S. university in July and August 1998. Two callbacks were made to each number. There were 957 partial interviews, 1,235 refusals or break-offs, 715 cases of non-contact, 284 faxes, and 756 businesses. The response rates were as follows: RR1 = 45%; and RR2 = 63%.[46] Each community has a local newspaper outlet and access to network TV news. Although the urban communities have outlets for local TV news, the rural communities receive local TV news from stations in larger nearby communities.

Measurement. The analyses undertaken involved control exogenous variables and various endogenous variables (see Table 1 for descriptive statistics).

Exogenous Variables. Control variables included age, education, years in community (how long respondents have lived in their areas), ethnicity (W=1), income, and gender (M=1). Household income was measured on an 11-point scale, from "Less than $5,000" (1) to "More than $50,000" (11). Education was measured on a 7-point scale, from "Less than High School" (1) to "Graduate Degree" (7). We also used dichotomous variables for rural (Hannibal vs. Sedalia) and urban (Kansas City vs. St. Louis) communities.

Endogenous Variables.

Mass Media Use. There was an entertainment TV viewing question for each day of the week.[47] Daily totals were added to create a weekly behavioral index. Because of skewness to the upper end of the distribution of this measure, a square-root transformation was performed.[48] For news use, we weighted exposure by attention for each medium (newspapers,[49] local TV news,[50] and network TV news[51]), rendering three medium-specific indexes of news use.

Social Capital. We view social capital to be the reciprocal relationship of social networks and social trust.[52] We had two latent measures of social capital (social networks and social trust), with each possessing two manifest indicators of social capital. The indicators of social networks were association membership[53] and neighborliness.[54] Association membership was measured with an additive index of eight types of organizations,[55] and there were three items for neighborliness ($\alpha = .76$).[56]

For indicators of social trust, there were seven items. Factor analysis (principle components, with oblique rotation) identified two dimensions: (1) interpersonal trust,[57] and (2) community trust.[58] Interpersonal

TABLE 1
Descriptive Statistics

	Rural Communities		Urban Communities		
	Mean	s.d.	Mean	s.d.	Ancova
Exogenous Variables					
Age	47.84	17.53	45.63	18.56	*
Years in Community	29.04	21.30	30.98	2.71	*
Gender (M=1)	.56	.50	.45	.50	*
Ethnicity (W=1)	.94	.24	.56	.50	*
Education	13.89	2.54	14.27	2.74	*
Income	6.80	3.12	6.62	3.24	
Endogenous Variables					
Newspaper Use	24.48	15.43	18.05	15.84	*
Local TV News Use	22.30	16.82	27.01	15.73	*
Network TV News Use	21.76	15.76	20.52	16.25	*
Entertainment TV Viewing	15.61	12.58	16.15	14.71	
Interpersonal Trust	3.42	.54	3.31	.67	
Community Trust	2.95	.37	2.71	.48	*
Neighborliness	2.68	.85	2.56	.89	
Association Membership	1.81	1.47	1.98	1.53	
Voting	3.02	1.36	3.07	1.32	
Volunteering	7.41	29.06	7.11	19.23	*

* Indicates significant difference between communities.

trust accounted for 31.04% of variance (eigenvalue = 2.59; α = .73), and community trust accounted for 24.79% of variance (eigenvalue = 1.32; α = .70). The items for interpersonal trust are normative in that they assess respondents' perceptions of how other people act, while the items for community trust assess respondents' perceptions of the places where they live.

We rely on two pro-social behavior measures: voting and volunteering. Voting had four items (α = .82),[59] and volunteering was measured in terms of hours per month over the previous year.[60] Because of skewness to the upper end of the distribution of volunteering, a square-root transformation was performed.[61]

Statistical Procedure. First, missing values were replaced with means because the cases missing were fewer than 5%.[62] Second, bivariate correlation matrices were created to depict zero-order correlations between the endogenous and exogenous variables for the rural and urban samples (see Tables 2 and 3). Third, analysis of variance was implemented, with control measures inserted as covariates. These analyses determined if demographic, mass media use, social capital, and pro-social behavior measures differed significantly between rural and urban communities (see the far right column of Table 1). In significant cases,

TABLE 2

Pearson Correlations for Exogenous Variables Relationships

	Community	Age	Gender (M=1)	Ethnicity (W=1)	Education	Income	Years in Community
Age	Rural	1					
	Urban	1					
Gender (M=1)	Rural	-.17**	1				
	Urban	-.10**	1				
Ethnicity (W=1)	Rural	.00	.07*	1			
	Urban	.00	.09**	1			
Education	Rural	-.06	.01	.02	1		
	Urban	-.16**	.03	.20**	1		
Income	Rural	-.18**	.24**	.06	.32**	1	
	Urban	-.19**	.20**	.28**	.45**	1	
Years in Community	Rural	.59**	-.11**	.01	-.21**	-.11**	1
	Urban	.65**	-.09**	-.13**	-.26**	-.23**	1
Newspaper Use	Rural	.17**	-.10**	-.09**	.12**	.03	.07*
	Urban	.01	.06*	-.02	.16**	.15**	.02
Local TV News Use	Rural	.11**	-.06	-.02	-.03	-.03	.06
	Urban	.03	-.11**	-.12**	-.04	-.02	.05*
Network TV News Use	Rural	.15**	-.03	-.03	.08*	.00	.11**
	Urban	.08**	-.03	-.06*	.05*	.05*	.06*
Ent. TV Viewing	Rural	.00	.03	-.09*	-.20**	-.18**	.10**
	Urban	-.04	-.02	-.15**	-.19**	-.21**	.08*
Neighborliness	Rural	-.02	.09**	.12**	.08*	.09**	-.02
	Urban	-.06*	.03	.28**	.14**	.24**	-.08**
Assoc. Membership	Rural	-.07*	-.02	.02	.29**	.23**	-.01
	Urban	.02	-.07**	-.05*	.26**	.21**	.03
Interpersonal Trust	Rural	-.05	.06	.10**	.04	.22**	-.02
	Urban	.02	-.03	.14**	.11**	.15**	-.01
Community Trust	Rural	.08*	.03	.05	.20**	.22**	.05
	Urban	.02	.05*	.18**	.19**	.18**	.00
Voting	Rural	.38**	-.06	.05	.27**	.16**	.26**
	Urban	.30**	.02	.02	.17**	.12**	.24**
Volunteering	Rural	-.01	-.01	-.04	.15**	.05	-.02
	Urban	-.08**	.00	-.03	.17**	.05*	-.05

* $p < .05$; ** $p < .01$

estimated marginal means were calculated to depict the means of a measure when considering the effects of the control variables. For the second and third steps of statistical analysis, the manifest indicators of social capital were used.

Fourth, structural equation modeling (SEM), with maximum likelihood method of estimation, was implemented. Because the chi-square

TABLE 3

Pearson Correlations for Endogenous Variables Relationships

	Community	Newspaper Use	Local TV News Use	Network TV News Use	Ent. TV Viewing	Neighborliness	Assoc. Membership	Interpersonal Trust	Community Trust	Voting	Volunteering
Newspaper	Rural	1									
Use	Urban	1									
Local TV	Rural	.28**	1								
News Use	Urban	.35**	1								
Network TV	Rural	.35**	.41**	1							
News Use	Urban	.30**	.59**	1							
Ent. TV	Rural	-.06	.12**	.12**	1						
Viewing	Urban	-.01	.23**	.19**	1						
Neighbor-	Rural	.02	.03	.01	-.03	1					
liness	Urban	.12**	.07**	.05*	-.06**	1					
Assoc.	Rural	.16**	.04	.03	-.17**	.32**	1				
Membership	Urban	.20**	.10**	.08**	-.07**	.24**	1				
Interpersonal	Rural	.04	.08**	.04	-.09*	.32**	.15**	1			
Trust	Urban	.09**	.07**	.02	-.04	.35**	.18**	1			
Community	Rural	.11**	.05	.07*	-.16**	.18**	.20**	.19**	1		
Trust	Urban	.13**	.02	.01	-.09**	.22**	.15**	.28**	1		
Voting	Rural	.27**	.13**	.21**	-.13**	.17**	.25**	.08*	.20**	1	
	Urban	.18**	.07**	.12**	-.12**	.12**	.26**	.11**	.12**	1	
Volunteering	Rural	.14**	.00	.02	-.13**	.13**	.29**	.02	.05	.12**	1
	Urban	.10**	-.01	-.01	-.08**	.15**	.33**	.07**	.06*	.09**	1

* $p < .05$; ** $p < .01$

test is often problematic for large samples,[63] we relied on two additional model fit indexes—the comparative fit index (CFI) and the root mean square error of approximation (RMSEA). CFI values fall between 0 and 1, with .95 indicating a good fit.[64] For the RMSEA, a value of close to .06 or less indicates a good fit. In addition, a non-significant chi-square value indicates close fit. Path significance was evaluated at the .05 level.

Our models have manifest and latent variables.[65] Latent variables, which are free of measurement error, represent two concepts central to social capital: social networks and social trust. We tested reciprocal paths between social networks and social trust with nonrecursive models,[66] in which there is a specified feedback loop.[67] There are pros and cons to use of cross-sectional data to test reciprocal relationships,[68] with one drawback being the need to check the stability of each nonrecursive subset. A stability index can be used to do so, with a value of less than 1 indicating system stability.[69] In each model, paths were fixed from exogenous to endogenous variables, from mass media use to latent social capital and pro-social behavior measures, and from latent social capital measures to pro-social behavior measures. Modification indices were used as a

TABLE 4
Direct and Indirect Effects of Exogenous Variables

Sources of Influence

Model	Effect	Age	Gender (M=1)	Ethnicity (W=1)	Education	Income	Years in Community
Social Networks Rural	Direct	–	–	–	.28	–	–
	Indirect	.08	–	.04	.10	.17	–
Urban	Direct	–	–	-.12	.39	.22	.09
	Indirect	.05	.01	-.02	.03	.03	.01
Social Trust Rural	Direct	–	–	.14	–	.31	–
	Indirect	.05	–	.01	.13	.06	–
Urban	Direct	–	–	–	–	–	–
	Indirect	.04	–	-.11	.31	.18	.07
Voting Rural	Direct	.28	–	–	.15	.08	.12
	Indirect	.05	–	.01	.13	.05	–
Urban	Direct	.23	–	–	–	–	.09
	Indirect	.04	.01	-.05	.17	.11	.04
Volunteering Rural	Direct	–	–	–	–	–	–
	Indirect	.03	–	-.03	.18	-.02	–
Urban	Direct	-.10	–	–	–	-.15	–
	Indirect	.03	–	-.07	.21	.12	.05

* Coefficients are standardized.

means to improving model fit. Models were pruned of non-significant paths. Control variables are not depicted in the figures in order to clarify presentation.

Results

Preliminary Findings. The means for news use were significantly different in each case: network TV news use, $F = 12.22$, $p < .001$; local TV news use, $F = 9.33$, $p < .002$; and newspaper use, $F = 83.71$, $p < .001$. The estimated marginal means for network TV news use were 22.55 for people in rural communities ($SE = .63$) and 19.71 for people in urban communities ($SE = .45$). The estimated marginal means for local TV news use were 23.42 for people in rural communities ($SE = .65$) and 25.96 for people in urban communities ($SE = .46$). The estimated marginal means for newspaper use were 24.86 for people in rural communities ($SE = .62$) and 17.63 for people in urban communities ($SE = .44$). Volunteering is also significantly different, $F = 4.39$, $p < .036$. The estimated marginal means for volunteering were 1.74 for rural communities ($SE = 1.56$) and 1.50 for urban communities ($SE = 1.37$). In terms of the other two measures, the differences were nonsignificant: entertainment TV viewing, $F = 3.32$, $p < .069$; and voting, $F = .32$, $p < .575$.

We tested two structural equation models—one for rural communities (see Figure 1 and Tables 4 and 5) and one for urban communities

TABLE 5

Direct and Indirect Effects of Endogenous Variables

| | | | Sources of Influence | | | | | |
	Model	Effect	News-paper Use	Local TV News Use	Network TV News Use	Ent. TV Viewing	Social Networks	Social Trust
Social Networks	Rural	Direct	.20	–	–	-.14	–	.35
		Indirect	.03	–	.03	-.02	.14	.05
	Urban	Direct	.18	.08	–	-.06	–	–
		Indirect	–	–	–	–	–	–
Social Trust	Rural	Direct	–	–	.07	–	.35	–
		Indirect	.08	–	.01	-.06	.05	.14
	Urban	Direct	–	–	–	–	.74	–
		Indirect	.13	.06	–	-.05	–	–
Voting	Rural	Direct	–	–	.09	–	.32	–
		Indirect	.07	–	.01	-.05	.05	.13
	Urban	Direct	.07	–	–	-.08	.50	.18
		Indirect	.07	.03	–	-.02	.13	–
Volunteering	Rural	Direct	–	–	–	–	.60	.33
		Indirect	.11	–	.01	-.08	.05	.19
	Urban	Direct	–	–	–	–	.81	.42
		Indirect	.09	.04	–	-.03	.31	–

* Coefficients are standardized

(see Figure 2 and Tables 4 and 5). The rural model had the following goodness of fit values: chi-square = 138.25, *d.f.* = 63, *p* > .001; CFI = .96; and RMSEA = .04. The urban model had the following goodness of fit values: chi-square = 131.08, *d.f.* = 51, *p* < .001, CFI = .98; and RMSEA = .03. Thus, the two indexes indicate very good fit. The chi-square values do not suggest the same, but this could be related to sample size.[70] The squared-multiple correlations indicate that the rural model accounts for 5% of variance in entertainment TV viewing, 10% in network TV news use, 13% in newspaper use, 5% in local TV news use, 50% in social networks, 46% in social trust, 34% in voting, and 21% in volunteering. The squared-multiple correlations suggest that the urban model accounts for 7% of variance in entertainment TV viewing, 8% in network TV news use, 8% in newspaper use, 7% in local TV news use, 32% in social networks, 55% in social trust, 28% in voting, and 30% in volunteering. Thus, the percentages of variance explained were sizeable for the latent social capital measures and pro-social behavior measures, but smaller for the mass media use measures. It should also be noted that the community variables (Kansas City vs. St. Louis and Hannibal vs. Sedalia) had no significant effects and, thus, are not included in the tables. Finally, stability is demonstrated for the nonrecursive subset in the rural model (stability index = .122).

FIGURE 1
Rural Social Capital Model

FIGURE 1
Rural Social Capital Model
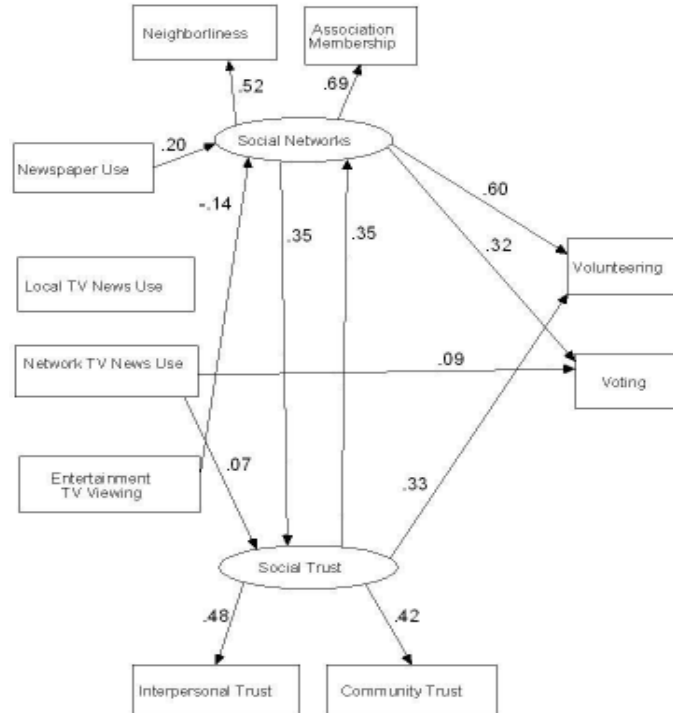
Another basic finding should be noted here. As depicted in Table 3, the two pro-social behavior measures—voting and volunteering—had significant zero-order correlations ($r = .12$ in the rural model; $r = .09$ in the urban model). In SEM, however, the situation changed. In the rural model, the covariance was nonsignificant ($r = -.04$). In the urban model, the covariance was significant ($r = -.15$).

Findings Related to Hypotheses. H1 predicted that people in rural communities would have significantly higher levels of social capital indicators than people in urban communities. The findings are as follows: community trust, $F = 59.05$, $p < .001$; interpersonal trust, $F = 1.69$, $p < .201$; association membership, $F = .18$, $p < .668$; and neighborliness, $F = 2.01$, $p < .156$. The estimated marginal means for community trust were 2.90 for people in rural communities ($SE = .02$) and 2.74 for people in urban communities ($SE = .01$). Thus, support for H1 is limited to community trust.

H2 held that news use would be positively associated with social capital and pro-social behaviors. In the rural model (see Table 5), newspaper use had a direct path to social networks ($\beta = .20$) and indirect paths to social networks ($\beta = .03$), social trust ($\beta = .08$), voting ($\beta = .07$), and

FIGURE 2
Urban Social Capital Model
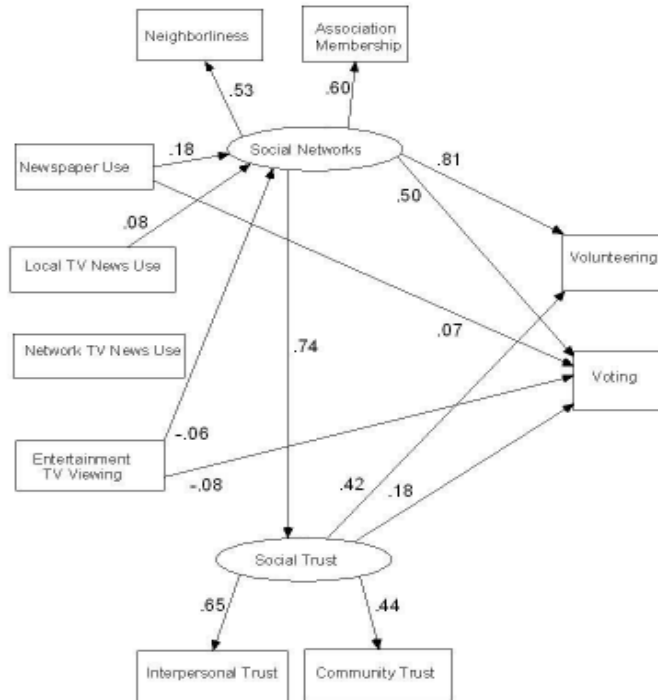
volunteering (β = .11). Local TV news use had no significant ties, while network TV news use had direct effects on social trust (β = .07) and voting (β = .09) and indirect effects on social networks (β = .03), social trust (β = .01), voting (β = .01), and volunteering (β = .01). In the urban model (see Table 5), newspaper use had direct paths to social networks (β = .18) and voting (β = .07) and indirect paths to social trust (β = .13), voting (β = .07), and volunteering (β = .09). Local TV news use had a direct effect on social networks (β = .08) and indirect effects on social trust (β = .06), voting (β = .03), and volunteering (β = .04). There were no significant paths from network TV news use in this model. Thus, H2 is supported, except in the case of local TV news use in the rural model and network TV news use in the urban model.

H3 held that entertainment TV viewing would negatively predict social capital and pro-social behaviors. In the rural model (see Table 5), entertainment TV viewing had a direct path to social networks (β = -.14) and indirect paths to social networks (β = -.02), social trust (β = -.06), voting (β = -.05), and volunteering (β = -.08). In the urban model (see Table 5), entertainment TV viewing had direct paths to social networks (β = -.06) and voting (β = -.08) and indirect paths to social trust (β = -.05), voting (β = -.02), and volunteering (β = -.03). Thus, H3 is supported.

H4 predicted that social capital would be positively associated with pro-social behaviors. In the rural model (see Table 5), social networks had direct paths to voting ($\beta = .32$) and volunteering ($\beta = .60$) and indirect paths to voting ($\beta = .05$) and volunteering ($\beta = .05$). In addition, social trust had a direct path to volunteering ($\beta = .33$) and indirect paths to voting ($\beta = .13$) and volunteering ($\beta = .19$). In the urban model (see Table 5), social networks had direct effects on voting ($\beta = .50$) and volunteering ($\beta = .81$) and indirect effects on voting ($\beta = .13$) and volunteering ($\beta = .31$). In addition, social trust had direct effects on voting (.18) and volunteering (.42). Thus, H4 is supported.

Findings Related to Research Questions. RQ1 involved the potential mediation of the relationships between mass media use and pro-social behaviors. In the rural model (see Figure 1), the influence of the mass media measures was mediated by social networks and social trust in all but one case, that involving the path from network TV news use to voting. In the urban model (see Figure 2), there are two breaks from mediation: (1) the path from newspaper use to voting; and (2) the path from entertainment TV viewing to voting. The other paths, however, support the mediation roles of social networks and social trust.

RQ2 dealt with whether relationships between mass media use and both social capital and pro-social behaviors and the related developmental processes would differ between rural and urban communities. In the two models (see Figures 1 and 2), newspaper use had a positive effect on social networks, which then influenced both volunteering and voting. Also, in both models, entertainment TV viewing had negative effects on social networks, and social trust influenced volunteering. The rural model has two unique media paths: (1) from network TV news use to social trust; and (2) from network TV news use to voting. The urban model has four unique paths: (1) from newspaper use to voting; (2) from local TV news use to social networks; (3) from entertainment TV viewing to voting; and (4) from social trust to voting. The social capital processes are also different in the two models. Social networks and social trust had a reciprocal relationship in the rural model, while the path is one-way in the urban model.

Table 4 highlights demographic differences. Ethnicity had negative effects on social networks and social trust in the urban model, while the influences were positive in the rural model. Similarly, ethnicity had a negative effect on voting in the urban model, while the effect was positive in the rural model. Also, years in community had strong positive influences on social networks and social trust in the urban model, while the effects were nonsignificant in the rural model. Finally, the total effect of age on volunteering is negative in the urban model, but positive in the rural model.

Discussion

We demonstrated strong support for three of our four hypotheses. Buttressing previous research,[71] we found that news use has positive ties to social capital. In addition, we demonstrated the negative role of entertainment TV viewing, which supported previous research.[72]

Also, we showed that social capital predicts pro-social behaviors such as voting and volunteering. In a general sense, this finding indicates

the positive outcomes that social capital can bring about.[73] More specifically, it supports literature that has suggested that social capital can spur pro-social consequences such as youth supervision and volunteering.[74] The relationship between social networks and volunteering can be explained in two ways. First, it could be that people volunteer because they are asked to volunteer—with social networks allowing for more asking.[75] Second, there could be some conceptual overlap between social networks and volunteering. Although none of our association membership items specifically dealt with volunteer work, some of the group types, such as the PTA or youth sports, may be viewed as being congruent with volunteering by some respondents.

The findings are somewhat different in terms of voting. The links between voting and social trust are weaker than those between voting and social networks. In addition, the voting links are weaker than those between volunteering and both social networks and social trust in the two models. Although the effects on voting are positive in each case, it appears that trust of people and community is not as important to determining voting as it is to predicting volunteering.

In terms of the other hypothesis, we expected to find that people in rural communities had significantly higher levels of social capital than people in urban communities. This expectation was based in previous research.[76] We found support for this hypothesis only in the case of community trust. That rural Americans had higher levels of community trust could also be explained in terms of crime levels. Because one of the items for the community trust index involved raising youth and another dealt with community safety, it could be that rural respondents have higher levels of community trust because they confront fewer incidents of crime than urban respondents.

The other three manifest indicators of social capital (neighborliness, association membership, and interpersonal trust) and voting (a pro-social behavior measure) were not significantly different. In these cases, the nature of life and culture in the rural and urban communities does not appear to alter the manner in which people interact and participate civically and socially. This finding suggests that our focal urban communities are not as socially bleak and isolated as Putnam contended.[77]

Also, we had two research questions. The first dealt with the relationship between mass media use and pro-social behaviors. Aside from one case, the analyses on the rural sample suggest a three-step model: (1) mass media use; (2) social capital; and (3) pro-social behaviors. The urban model is more complex, with influences coming in two forms: (1) directly from mass media use; and (2) indirectly from mass media use, as mediated by social capital. A clearer way to view these mediation findings is via a volunteering-voting dichotomy. Media effects on voting are both direct and indirect, while those on volunteering are only indirect (as mediated by social capital). Thus, social capital is a requisite step in the volunteering process, but not in the voting process.

The second research question dealt with the influence of mass media use on social capital and its related processes. We found support for our model in the case of rural Americans. In this model, there was a

significant path from social networks to social trust and from social trust to social networks. This reciprocal relationship supports previous theorizing.[78] This was not the case in the urban model, where social networks influenced social trust, with the return path being nonsignificant. This finding suggests a linear model, one that goes against the theorizing mentioned immediately above. We should note, however, that neither Brehm and Rahn nor Shah found support for the reciprocal relationship that forms social capital. The direction of this path in our urban model—from social networks to social trust—is at odds with some research,[79] but supports Shah.[80]

As noted above, media effects in the two models were different in some important ways. Newspaper use had larger effects on social networks in the rural model, but larger effects on social trust and voting in the urban model. This could be related to the significantly higher levels of use of this medium in rural communities. The differing effects of local and network TV news are even more conspicuous. Local TV news use had positive effects in the urban model, but none at all in the rural model. That local TV news use had nonsignificant influences in the rural model makes sense because, as mentioned earlier, the two focal rural communities do not have their own local TV news outlets. This rationale is supported, as well, by the finding that urban Americans had significantly higher levels of local TV news use than rural Americans.

In contrast, network TV news use had positive effects in the rural model, but none at all in the urban model. The influence in the rural model takes two forms—from network TV news use to social trust and from network TV news use to voting. The latter link can be explained by the focus of national news coverage on the political and voting processes. The link to social trust, however, is more difficult to explain. Why would national news coverage spur social trust? And why would it do so in rural communities, but not in urban communities? It could be that rural Americans, many without access to local TV news, turn to network TV more often. This, however, is not the case in terms of our samples, where urban Americans had significantly higher levels of network TV news use. An alternative explanation may rest in media dependency. It could be that urban Americans use network TV news more than rural Americans, but depend on it less, with high levels of dependency capable of spurring social trust.

The effects of entertainment TV viewing are similar between the two models, except in the cases of social networks and volunteering. The effects of entertainment TV viewing on social networks and volunteering are more negative in the rural model. This is somewhat surprising because entertainment TV viewing had only one negative path in that model, as compared to two in the urban model. It appears that, although viewing levels are similar in rural and urban Americans, entertainment television has more harmful effects in rural communities. These negative effects can be explained in terms of cultivation analysis, which indicates that crime- and violence-laden TV programs can have negative effects on how people perceive the real world.[81] In our case, this negative influence appears to extend beyond perceptions of the real world to social perceptions, social interactions, and subsequent pro-social behaviors.

The current study has two important limitations. First, because SEM only posits a direction of effect, causation is implied and not demonstrated. Thus, we do not determine conclusively that news use is "causing" increases in social capital. It is possible that the relationship could be in the opposite direction, with people with more social capital using more news. That said, the direction of this link—from news use to social capital—was demonstrated by Shah and his colleagues.[82] In addition, our SEM approach allows for reciprocal paths between social networks and social trust, which help clarify the relationship of these two concepts. Second, because the telephone survey interviews were of adults in only four communities in the state of Missouri, our findings should be generalized to other populations only with caution.

Despite these limitations, we hope that our work here can help illuminate differences in how social capital develops in rural and urban communities. We demonstrate varying patterns of mass media influence and relations among social networks and social trust. These findings are important because, if social capital is on the decline, it is important to explore the processes by which this trend can, perhaps, be reversed. We hope these findings will influence future research. Specifically, we urge researchers to continue to test reciprocal ties between social capital measures. Also, we suggest additional testing of how the development of social capital may differ between population segments, including those distinguished by community type, ethnicity, and other important factors. Finally, we encourage researchers to experiment with different measures of social capital and measures of volunteering that distinguish between volunteering done alone and that done hand-and-hand with others.

NOTES

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47. Entertainment TV was defined to include situation comedies, action shows, daytime soap operas, movies in TV, talk shows, sports, music videos, games shows, cartoons, and other related shows. The statement for viewing was as follows: "Please tell me the average number of hours you spend watching entertainment television on each day of the week."

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49. Newspaper use was measured with the following two questions:

"About how many days per week do you read a local newspaper?" and "On a scale of 1 to 7 where 1 means little or none and 7 means a great deal, about how much attention do you pay to newspaper stories about politics, economy, and social issues in [your rural/urban community]?"

50. Local TV news use was measured with the following two questions: "About how many days per week do you watch the local TV news?" and "On a scale of 1 to 7 where 1 means little or none and 7 means a great deal, about how much attention do you pay to local television news stories about politics, economy, and social issues in [your rural/urban community]?"

51. Network TV news use was measured with the following two questions: "About how many days per week do you watch network television news?" and "On a scale of 1 to 7 where 1 means little or none and 7 means a great deal, about how much attention do you pay to network television news stories about politics, economy, and social issues?"

52. Brehm and Rahn, "Individual-Level Evidence"; Shah, "Civic Engagement."

53. Brehm and Rahn, "Individual-Level Evidence"; Putnam, "Bowling Alone"; Putnam, "Turning In."

54. Putnam, *Bowling Alone*.

55. Association membership included the following groups: business civic groups like Kiwanis or Rotary; religious organizations; ethnic or racial organizations; neighborhood associations; PTA or other school-related organizations; political clubs or organizations; social clubs such as card playing, music, hobbies, book clubs, etc.; and youth groups like scouts or children's sports.

56. Neighborliness was measured with the following questions: (1) "Within the last year, how often did you borrow or exchange things with your neighbors?"; (2) "Within the last year, how often did you visit your neighbors?"; and (3) "Within the last year, how often have you and your neighbors helped one another with small tasks, such as repair work or grocery shopping?" Responses: never (1), rarely (2), sometimes (3), often (4).

57. Interpersonal trust was measured with the following questions: (1) "If your neighbors saw children skipping school or just hanging out, your neighbors would intervene in some way"; (2) "If your neighbors saw children spray-painting graffiti on buildings, your neighbors would intervene in some way"; (3) "If your neighbors observed a fight breaking out in front of their house, your neighbors would intervene in some way"; and (4) "If an emergency arose in your home, how likely do you think your neighbors would be to help you?" Responses: very unlikely (1), somewhat unlikely (2), somewhat likely (3), very likely (4).

58. Community trust was measured with the following statements: (1) "Most people in [your rural/urban community] can be trusted"; (2) "[Your rural/urban community] is a good place to raise children"; and (3) "[Your rural/urban community] is a safe place." Responses: strongly disagree (1), disagree (2), agree (3), strongly agree (4).

59. Voting was measured with the following questions: (1) "Are you registered to vote?"; (2) "Did you vote in the last local government

election?"; (3) "Did you vote in the last state election?"; and (4) "Did you vote in the last national election?" Responses: yes (1), no (0).

60. Volunteering was measured with two questions: 1) "Within the last year, have you done any volunteer work in your community?"; and (2) "Approximately how many hours per month did you volunteer?"

61. Tabachnick and Fidell, *Using Multivariate Statistics*.

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71. Brehm and Rahn, "Individual-Level Evidence"; Norris, "Did Television Erode"; Norris, "The Impact"; Putnam, *Bowling Alone*.

72. For example, see Brehm and Rahn, "Individual-Level Evidence"; Norris, "Did Television Erode"; Norris, "The Impact"; Shah, Kwak, and Holbert, "'Connecting' and 'Disconnecting.'"

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76 . Putnam, *Bowling Alone*; Sampson, "Local Friendship Ties"; Tonnies, *Community and Society*; Wirth, "Urbanism."

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78. Brehm and Rahn, "Individual-Level Evidence"; Lin, *Social Capital*; Putnam, *Making Democracy Work*; Shah, "Civic Engagement."

79. Bankston and Zhou, "Social Capital"; Brehm and Rahn, "Individual-Level Evidence"; Putnam, *Bowling Alone*.

80. Shah, "Civic Engagement."

81. Gerbner et al., "The 'Mainstreaming.'"

82. Shah et al., "Nonrecursive Models."