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This research draws from social capital and reference group theories to examine how they influence healthy eating and alcohol abuse of low-income consumers. Data from 711 rural Indian show that asymmetric relationship between structural and cognitive social capital on healthy eating versus alcohol abuse and informational/normative influence moderators.

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ABSTRACT

Social capital and reference group influence have been found to influence consumer health-promoting (healthy vs. unhealthy food choices - Liu and Campbell 2012) and deviant behavior (alcohol consumption - Neighbors et al. 2008) in developed countries. However, there is a dearth of research evaluating the collective impact of social capital and reference group influence on healthy eating behavior and alcohol intake of subsistence consumers, especially those based at the Bottom of the Pyramid (BoP) (Prahallad 2005, 2009) and live on less than two dollars a day. Alcohol abuse and poor food/nutrition choices in socio-economically disadvantaged populations are typically gateways to many chronic diseases such as HIV and AIDS and social problems (e.g., suicide, violence, child abuse) in developing countries like India (Planning Commission 2012) with large proportions of low-income consumers and warrant investigation.

Most research has extensively examined the role of social capital on health outcomes of subsistence consumers in developing countries at a macro-level. However, recent research on social capital argues that social capital is a multidimensional concept and structural versus cognitive components of social capital differ in their impact on behavior. Further, there is heterogeneity in access to social capital across individual consumers based on age, status, hierarchy within a community and across geographies which macro-level research cannot address. At the micro level, social capital relates to attributes and propensities that facilitate mutually beneficial collective action among members of a community. This research examines individual perception of social capital in terms of its components; cognitive and structural social capital and how they are related to health-promoting (healthy eating) and deviant (alcohol consumption) behavior of subsistence consumers when there are differences in magnitudes and forms of reference group influence - informational versus normative. Specifically, this study, drawing from social capital and reference group theories, examines if informational and normative reference group influence moderate the relationship between social capital and health eating behavior and alcohol consumption.

SOCIAL CAPITAL, REFERENCE GROUP INFLUENCE AND HEALTH BEHAVIOR

Social capital includes structural (quantity of social relationships such group membership, bonding, bridging, linking) and cognitive (quality of social relationships such as trust, social harmony, sense of belonging) components (De Silva 2006). The cognitive elements of social capital – relating to norms, values, attitudes and beliefs predispose people toward mutually beneficial collective action, while structural elements – relating to networks, roles, rules, precedents facilitate such action (Uphoff 2000). In relation to health, cognitive social capital (predominantly socialized at the micro level) impacts behavioral norms, including control of risk behavior, and informal means of informational exchange. Social networks and relationships between individuals within and outside family circles, can promote the exchange of information and sharing of experiences (Coleman 1988). Individuals who exchange information through formal and informal networks can facilitate inter-individual coordination and cooperation as well as the acquisition and diffusion of information for mutual benefit thereby influencing others' behavior.

Conversely, individuals who are isolated and lack trust in neighborhood, networks, and institutions may not only have limited access to resources, they may be unable to develop the support and the capacity necessary for accessing the collectively-owned and mutually beneficial capital.

Social capital theory holds that the more the people possess social ties, the larger pool of confidants they possess; the more the people connect with others, the more they trust others and the greater the likelihood to receive social support and health-related information (Putnam 1995; Umberson and Montez 2010). This may suggest that social capital is positively related health behavior. The structural dimension (bonding, bridging and linking) is more objective and refers to quantity and quality of social relationships, and its indicator is network characteristics of individuals' relationships (Uphoff 2000). Research indicates that structural social capital in the form of social network, social support, including emotional, instrumental, and informational support positively impact healthy food choices (Berkman and Glass 2000). For instance, Sorensen et al. (2007) contend that social networks (e.g., social ties, diversity of friendship patterns) play an important role in promoting fruit and vegetable intake. This is especially true in Indian context, where religious, community, and caste determine "allowed" food options (Ghurye 2008).

However, the association with deviant behaviors like alcohol consumption is equivocal. While some studies conclude that social capital exerts protective effects on alcohol consumption (e.g., see Weitzman and Kawachi 2000 and Weitzman and Chen 2005 in Western college setting), others argue that the influence of some aspects of social capital (e.g., social networks, social participation) may be negative, mixed, or none (e.g., Mohnen et al. 2012; McCrady 2004; Lindstrom 2005). Culture differences and social influence may play an important role in predicting the impact of social capital on alcohol use. Asian cultures emphasize responsibility, interdependence, moderation and restraint consistent with lower alcohol consumption. While alcohol consumption has a place in Indian mythological history, strict social customs discourage alcohol consumption (Ghurye 2008). Multi-generational family units imply parental influences lower alcohol intake patterns however peers tend to encourage consumption of higher levels of alcohol among young adults. Hence, cognitive social capital may play a major role in alcohol consumption.

Research on reference-group effects and social norms – the standards against which the appropriateness of a certain behavior is assessed – have shown that have independent and significant social control over human behavior (Bearden, Netemeyer, and Teel 1989). Research on reference group influence suggests that mere group membership does not influence behavior unless consumers orient themselves to the group norms that shape behavior and evaluations. Informational influence occurs when an individual perceives enhancement of knowledge and ability to cope with environment when using information from opinion leaders, experts, or product user. Normative influence operates through the identification process whereas an individual who associates oneself with a group to enhance self-concept adopts this group's consumption patterns.

Individuals often rely on social norms on making food choices and how much to eat (Herman, Roth, and Polivy 2003). The health

sciences literature suggests that descriptive (what most people are believed to do) and injunctive norms (what people are supposed to do) drive consumer choices. Injunctive norms “eating healthy food is good for you” or “consuming alcohol is bad for your health” are accepted as universal truths, and public health officials can reinforce them through mass-media public service announcements and use of community health-care workers to educate consumers. However, descriptive norms are based on perceptions within reference groups, if information indicates that others typically make healthy choices, individuals are more likely to select healthier foods (Burger et al. 2010). For example, Ball et al. (2010) find that social norms for healthy eating predict higher intakes fruit and vegetable. However, perceptions of descriptive norms can be often inaccurate and have been shown to correlate with levels of excessive drinking (Neighbors et al. 2004).

Reference group influences require the opportunity for social interaction and public scrutiny of behavior (Bearden, Netemeyer, and Teel 1989). Alcohol consumption is more often a social affair than a solitary act and its after-effects are likely to be more conspicuous and visible relative to choice of food. In contrast, food choices and consumption is more private and a family activity mostly within the confines of a home since most Indians eat home-cooked food. Normative influence is likely to be stronger for publicly consumed products like alcohol, and almost non-existent for necessity products like food. In addition, publicly consumed alcohol beverages are likely to violate social norms in certain religious groups and castes in India. Hence, *this study examines the moderating role of reference group influence on the relationship between social capital and healthy eating behavior and alcohol consumption.* We theorize that informational influence that is less susceptible to perceptual differences will be salient for healthy eating behavior while normative influence will have higher salience for alcohol consumption. It is hypothesized that social capital is positively related to healthy eating behavior when informational influence is high rather than low. However, social capital is inversely related to alcohol consumption when normative influence is high rather than low.

METHOD

Data for this study were obtained through a statewide survey of 711 individuals from rural India who live below the poverty level line. The study recruited only those BoP individuals who possessed Antyodaya Anna Yojana (AAY) ration cards and were qualified to receive subsidized food and other services delivered through the public distribution system. A total of 1500 participants were randomly selected using the AAY membership list maintained by the local government and they were requested to participate in the study. Taking into account the nature of participants enrolled in our study, we hired a reputed research firm to conduct the interview from July to September in 2012. The average age of respondents was 42 years, and 54.6 percent were males. Most respondents (57.3%) completed primary education, and 71.8 percent were employed.

The measure of social capital was adapted from De Silva et al. (2006), which is specially designed to measure social capital in low-income countries. This scale assessed structural social capital in terms of group membership, support from groups, support from individuals, bonding, bridging, and linking and the cognitive social capital measured trust in neighborhood, social harmony, and sense of belonging. This construct includes one new item “trust in community workers” that reflect the nature of the study population. Healthy eating behavior was measured with eight items on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). These items were adapted from various studies (e.g., Wardle et al. 2004;

Kearney et al. 2001). Two examples of the statements are “I make conscious efforts to try and eat healthy foods” and “I try not to eat too much fatty foods.” Alcohol consumption was measured by a question “How often do you drink alcoholic beverages?” which was adapted from Bobak et al. (1999). The response options were: never, less than once a month, about once a month, about once a week, and every day. Three items adapted from Bearden, Netemeyer, and Teel (1989) measured informational influence on a scale from 1 (strongly disagree) to 5 (strongly agree). Normative influence was measured with a three-item scale adapted from (LaTour and Manrai 1989). The respondents rated the extent to which three referents (family, neighbors, and people in the community) opposed or favored their alcohol consumption on a 5-point scale ranging from 1 (strongly opposes my alcohol consumption) to 5 (strongly encourages my alcohol consumption). Reference group influence measures were dichotomized into high and low scores using median split approach.

To exam the interaction effects between social capital and reference group influence on outcome measures, a series of multivariate analysis of variance (MANOVA) were conducted. At first, we evaluated basic assumptions of MANOVA. The Levene’s test is not significant ($p > .05$) which indicates that the assumption of homogeneity of group variances was not violated. The non-significance of Box’s M tests ($p > .05$) shows that the assumption of equality of covariances among the set of dependent variables is met.

RESULTS

In this study, we predicted that social capital would be positively related to healthy eating behavior when informational influence was high rather than low. Providing support for the proposition, the results reveal significant informational influence \times social capital interaction effect on healthy eating behavior -- group membership (Wilks’ $\lambda = .948$, $F_{(1,707)} = 10.726$, $p < .01$), bridging (Wilks’ $\lambda = .987$, $F_{(1,707)} = 4.343$, $p < .05$), trust in neighborhood (Wilks’ $\lambda = .972$, $F_{(1,707)} = 7.494$, $p < .01$), social harmony (Wilks’ $\lambda = .985$, $F_{(1,707)} = 3.111$, $p < .05$), and community workers (Wilks’ $\lambda = .958$, $F_{(1,707)} = 11.783$, $p < .001$). When informational influence was high than low, consumers who were active members of one or more groups or who carried out any organized activities in villages demonstrated higher levels of healthy eating behavior than those who did not actively participate in any groups or who did not carry out any organized activities in villages. Similarly, consumers with higher levels of trust in neighborhood, social harmony (who get along well with others), and trust in community workers (who trust and talk to Anganwadi or community workers about any of the health problems) exhibited higher levels of healthy eating behavior under high level of informational influence than low level of informational influence.

This study also posited that social capital would be inversely related to alcohol consumption when normative influence was high than low. Two measures of cognitive social capital -- trust in neighborhood (Wilks’ $\lambda = .987$, $F_{(1,707)} = 3.488$, $p < .05$) and trust in community workers (Wilks’ $\lambda = .947$, $F_{(1,707)} = 12.654$, $p < .001$) -- were significantly related to reduced alcohol consumption when normative influence was high than low. The result suggests that cognitive social capital may play an important role in reducing alcohol consumption if family, neighbor and people in the community demonstrate higher levels of opposition to alcohol consumption.

DISCUSSION

This study investigates the relationship of structural and cognitive social capital on health promoting (eating healthy) and deviant (alcohol consumption) behavior and the moderating effect of informational and normative reference group influence. Empirical

analysis of survey data show that both structural social capital and cognitive capital are positively related to healthy eating behavior, but these relationships are moderated by informational influence only. However, only cognitive social capital (i.e., trust in neighborhood and community workers) positively relates to lower level of alcohol consumption among the consumers with high levels of normative influence. This means both structural and cognitive dimensions can be useful in promoting healthy eating behavior while cognitive social capital appears to play a major role in reducing alcohol consumption. These results indicate that strengthening the social capital within communities may provide an important avenue for promoting healthy eating behavior and reducing alcohol consumption among low-income people in rural areas.

This research focuses on social capital provides insights for health practitioners, policy makers, social marketers, and advocates of health design collaborative community-oriented and decentralized strategies. Findings from research on health-related behaviors can have important ramifications, on policy formation and on improving the means, efficacy, and targeting of health communications and service delivery. There are two major approaches in planning health promotion; one based on centralized planning from above, and the other with a holistic, community-oriented, decentralized approach.

Our finding that high levels of informational influence can enhance the positive impact of social capital on community members' health behavior by promoting a more rapid diffusion of health information or increasing the likelihood that healthy behavior norms are adopted (like healthy eating) provide support for the fact that inside of centralized top-down government programs, returns on public spending are higher when community-based development programs are used to mobilize women from the lowest castes and poorest families in rural Indian villages to set up women's groups in their community to come up with solutions to jointly address issues like health training (including monitoring of the free school lunch program). It has significantly improved trust and cooperation among participants, hygienic and healthy meal preparation, immunization rates, schooling and access to informal credit. Moreover, studies find evidence of spillover effects on households who do not participate in the program themselves but who live in a village where the program is active. Several NGOs and non-profits fund rehabilitation centers for de-addiction and fund local initiatives involving sports and entertainment activities targeted to males exerting social control over deviant substance abuse behavior in communities.

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