


Food Insecurity and Social Capital Among Middle School Students

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Abstract

This study examines the relationship between social capital, poverty, limited food accessibility, and food insecurity among fifth to seventh graders ($N = 317$), ages 10 to 14, attending a middle school in Northwest Arkansas. Using survey data that overcomes methodological limitations of previous research on youth food insecurity, we answer the following questions: Does social capital have a direct impact on youth food insecurity? And, does social capital buffer the influence of negative circumstances on youth food insecurity? The broader theoretical question asks “In places where there is an abundance of natural, economic, and technological resources, what stands in the way of consistent access to food for *everyone*?” Regression analysis finds that various indicators of social capital have a significant relationship with food insecurity even after controlling for multiple sociodemographic and circumstantial factors. In addition, significant moderating effects reveal the unique capability of two-parent households to buffer the impact of poverty and limited accessibility.

Keywords

poverty, families, health/nutrition, parent support, peer support, social inequality

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Introduction

A great contradiction exists in the United States. Roughly 17 million households were food insecure in 2014—a total of 48 million individuals and more than 15 million children (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2015)—amid a national abundance of food and wealth. Food insecure individuals lack “consistent, dependable access to the nutrition needed for living a healthy, active lifestyle” (Coleman-Jensen et al., 2015, p. 7). Despite the burgeoning literature on food insecurity and its health consequences (Alaimo, Olson, Frongillo, & Briefel, 2001), research aimed at understanding the conditions which lead to youth food insecurity is limited (Gundersen & Ziliak, 2015).

The current study examines the relationship between social capital and food insecurity among youth to understand this contradiction and fill this gap in the literature. Rather than treating households as homogeneous and parents as spokespersons for children, this study recognizes that children occupy unique positions within families and that they can offer insights into their own experiences with material hardship (Connell, Lofton, Yadrick, & Rehner, 2005). Specifically, we address the following questions: Does social capital have a direct impact on child food insecurity? And, does social capital moderate negative environmental circumstances (i.e., poverty and limited accessibility) that influence child food insecurity? The broader theoretical question asks “In places where there is an abundance of natural, economic, and technological resources, what stands in the way of consistent access to food for *everyone*?”

We argue, and evidence suggests, that food insecurity is related to social capital, or “membership in a group—which provides each of its members with the back of the collectivity-owned capital, a ‘credential’ which entitles them to credit, in the various senses of the word” (Bourdieu, 1985, p. 249). The present study finds that several indicators of social capital have a significant relationship with food insecurity even after controlling for multiple sociodemographic and circumstantial factors. In addition, significant moderating effects reveal the unique capability of two-parent households to buffer the impact of poverty and limited food accessibility.

Theory and Evidence

Households with children experience higher rates of food insecurity than the general population (Coleman-Jensen et al., 2015); however, it is unclear whether the children themselves are food insecure in these households because of the aggregate nature of the data. Some research suggests that only

about half of the children living in food insecure households are themselves food insecure (Nord, Andrews, & Carlson, 2009); yet, these estimates still rely on parent or guardian reports. Middle school children are young enough to offer insight into many of the unanswered questions about child food insecurity; however, they are old enough to answer survey questions related to food insecurity (Connell, Nord, Lofton, & Yadrick, 2004). For these reasons, the present study focuses on middle school youth and their own self-reported food insecurity.

Poverty and Limited Food Accessibility

Food insecurity and healthy food intake are shaped by several characteristics of place, including poverty and limited accessibility (Dean & Sharkey, 2011; Pine & Bennett, 2014). While poverty is one way of assessing the limited purchasing power of a household or individual, limited accessibility can tell us something about the purchasing power of the place a person inhabits, and their ease in navigating that place. Food insecure households tend to be closer to convenience stores, and farther from supermarkets than their food secure counterparts (Thomas, 2010). Supermarkets are more likely to be in White, wealthy neighborhoods (Morland, Wing, Diez Roux, & Poole, 2002). Moreover, research on Chicago neighborhoods suggests that supermarkets have been responding primarily to the purchasing power of an area (Alwitt & Donley, 1997).

Accessibility, then, is related to both location and market mechanisms that shape the spatial distribution of food. Sen (1981) has pointed out for some time that it is a feature, rather than flaw, of free markets for food to be driven away from those needing it most. Thus, accessibility is about the ease with which someone can get to the nearest places that sell food, as well as recognition of spatial disadvantages. As such, we test two specific hypotheses developed from this literature:

Hypothesis 1: Poverty is positively associated with youth food insecurity.

Hypothesis 2: Limited accessibility is positively associated with youth food insecurity.

If we find food insecurity to be related to our proxy measure for poverty (i.e., free/reduced lunch), this would also suggest that the National School Lunch Program is (a) targeting a population where need exists and (b) that the program likely needs to be strengthened in some way, given that those

children still report higher levels of food insecurity than those not receiving the benefit.

Social Capital

Social capital represents the less tangible social resources which may or may not link individuals to tangible resources such as food, either directly (e.g., shared food/meals) or indirectly (e.g., cash transfers or carpooling to the supermarket). While access to food for any individual may be subject to a wide array of changes throughout a month or year, membership within a group may reduce some of the uncertainty or inconsistency of access to food by allowing for individuals to access a variety of collectively owned resources, including but not limited to actual food. Vital resources do not haphazardly distribute themselves but are directed, rather, through social relationships and institutions.

Few quantitative studies have examined the link between social capital and food insecurity in the U.S. context. While some research finds evidence that increased social capital is associated with lower risks or severity levels of food insecurity and hunger (Dean & Sharkey, 2011; K. S. Martin, Rogers, Cook, & Joseph, 2004; Walker, Holben, Kropf, Holcomb, & Anderson, 2007), other research finds that personal connections matter less than perceptions of the larger civic structure (Garasky, Morton, & Greder, 2006). K. S. Martin et al. (2004) finds evidence for associations between community and household levels of social capital and lower odds of hunger among low-income households in Connecticut. An inverse association was also found between household food insecurity and social capital for women participating in The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (Walker et al., 2007). Higher levels of social capital have also been found to be associated with less household food insecurity in rural Texas (Dean & Sharkey, 2011). Aggregate-level measures of food insecurity, however, cannot tell us about the experiences of individual household members, let alone youth.

Social capital includes the structure and quality of relations both outside of and within the family. Social capital within the family, Coleman (1988) argues, "depends both on the physical presence of adults in the family and on the attention given by the adults to the child" (p. S111). Indeed, previous research has shown an increased prevalence of child food insecurity among single-parent households in comparison with those living with married parents (Coleman-Jensen et al., 2015). Other research, however, suggests the differences in child food insecurity between family structures no longer remain after controlling for sociodemographic factors such as income, race

and ethnicity, and education (Miller, Nepomnyaschy, Ibarra, & Garasky, 2014). Coleman's perspective has been critiqued for being both adult-centered and overly focused on structure (Morrow, 1999). While this structural component of family social capital is highlighted in the present analysis, so is the impact of an indicator related to the quality of family relationships—family meals. We also shift from the top-down, adult-centered approach by surveying children directly and investigating the impact of relationships with their peers as well as with their parents.

Youth-focused research on the association between social capital and food insecurity is particularly limited. In the U.S. context, some qualitative work suggests not only that children participate in food sharing and coping practices which might reduce the risk of food insecurity (Fram et al., 2011) but also that food insecure families might be less engaged in social activities due to financial constraints (Connell et al., 2005). While this extant research is important and insightful, notable gaps remain: To our knowledge, there are no quantitative investigations of social capital and child food insecurity in the United States that utilize self-reported data from children themselves.

We test four hypotheses developed from this literature on social capital:

Hypothesis 3: The presence of both parents is negatively associated with youth food insecurity.

Hypothesis 4: Meals with family is negatively associated with youth food insecurity.

Hypothesis 5: Close friendships are negatively associated with youth food insecurity.

Hypothesis 6: Social capital is negatively associated with youth food insecurity.

The Buffering Hypothesis

Little is known regarding the role that social capital might play in buffering the impact of negative circumstances on food security (Dean & Sharkey, 2011; Garasky et al., 2006; K. S. Martin et al., 2004; Misselhorn, 2009; Walker et al., 2007), and even fewer studies have examined this association for children's outcomes. Some research outside the U.S. context offers support for the idea that adults may act as buffers against food insecurity for youth (De Silva & Harpham, 2007; Hadley, Lindstrom, Tessema, & Belachew, 2008). However, questions regarding the importance of friends and family in alleviating child-reported food insecurity, or how they may mitigate the impact of poverty and limited accessibility on child-reported food insecurity

in the U.S. context, remain largely unanswered. In particular, the impact of two-parent households remains unclear given that no previous research appears to have tested for interaction with poverty and limited accessibility. As such, we test an additional hypothesis developed from this literature focusing on the buffering effect:

Hypothesis 7: Both family and peer social capital indicators will buffer the impact of poverty and limited accessibility on food insecurity.

Method

The analysis uses data collected in late September of 2012. The intent was to gauge the various health issues faced by middle school children and their parents in Northwest Arkansas as well as examine the influences of social capital and stressors on those health outcomes. A team of 17 trained volunteers read the 70-item questionnaire aloud to the students to minimize any literacy differences across students. A Spanish-translated survey was provided to all who requested it when asked. The survey was administered to students in their early morning classrooms and took approximately 30 minutes to complete. Students were asked questions concerning their demographic characteristics, their household structure, their social class background, their friendships, eating behaviors, risk behaviors, food security, and mental and physical well-being. The University Institutional Review Board reviewed and approved this study.

Sample

The sampling frame for this study included all fifth through seventh graders attending a selected middle school in Northwest Arkansas. This school was selected for several reasons. First, it closely resembles the county and the state in terms of a proxy measure for poverty (i.e., free and reduced lunch eligibility). For example, approximately 56% of students in this county are eligible for free or reduced lunch (Arkansas Department of Education, 2011). About 60% of the Arkansas student population is eligible for free or reduced lunch (Arkansas Department of Education, 2011). Among the students in our sample, 57% self-reported having their lunch as either free or reduced in price. Second, the student population is slightly more racially diverse than most schools in the state, county, and district, increasing possibilities for statistical analysis across racial and ethnic groups. Finally, the school is near the headquarters of both a food distributor (Wal-Mart) and producer (Tyson) that are major players in the global food market, which further complicates any

claims that food insecurity in this school could be caused by scarcity or solved through market mechanisms.

The sample ($N = 334$) of students had a response rate of 92%. Three students chose not to complete the survey while the remaining incomplete surveys were due to excused absences. Excluding students with missing data for the variables of interest, the final sample in our model includes a total of 317 students. Based on some general demographic characteristics and other variables including overweight status and participation in free or reduced school lunches, this cross-sectional sample of middle school students matches closely with the composition of the Northwest Arkansas region and the state of Arkansas.

Measurement

Food insecurity. Due to considerable time constraints in this school setting, our survey utilized only the first five of nine items developed for children by Connell et al. (2004). Following the prompt, "Thinking about your experience with food over the past year," children were asked the following questions: (a) Did you worry that food at home would run out before your family got money to buy more, (b) did the food that your family bought run out and you didn't have money to get more, (c) how often were you not able to eat a balanced meal because your family didn't have enough money to buy food, (d) did your meals include a few kinds of cheap foods because your family was running out of money to buy food, and (e) have your meals been smaller because your family didn't have enough money to buy food? Possible responses included "never," "sometimes," and "a lot." These items were coded from 0 to 2 in the order listed. A composite food insecurity scale was computed ranging from 0 to 10. The scale was reliable with a Cronbach's alpha = .84 ($M = 1.88$; $SD = 2.36$).

Sociodemographic variables. The control variables we have included in our model are sex and race: female = 1; non-Hispanic White = 1.

Free/reduced lunch. While receipt of free and reduced lunch is not a perfect substitute for poverty, it is widely used as a reasonable proxy measure for poverty for youth (Snyder & Musu-Gillete 2015). Reduced-price lunches are provided to children in households at, or below, 185% poverty. Students were asked, "How do you pay for your school lunch?" Possible responses included "free," "reduced price," "parents pay," "parents pack my lunch," and "other." This variable was recoded with all responses other than free or reduced price = 0, and both free and reduced price = 1.

Limited accessibility. This measure was intended to capture one aspect of the students' foodscape and their ease in navigating it. Students were asked, "Thinking about your nearest place to buy food, how easy or difficult would it be to get there from your home by walking, riding your bike, or taking the bus?" Available responses ranged from very difficult = 4 to very easy = 1.

Social capital. Because there are no widely recognized measures of social capital for youth populations, our measures are exploratory but consistent with theoretical formulations of the concept. Moreover, due to their exploratory character, we decided to include several indicators of social capital: Two focused on social capital within the family—the presence of both parents, and the frequency of family meals—and two related to peer social capital—an index related to the quality of friendships and a count of close friends.

Parents present. Recent research suggests that two-parent households are an appropriate proxy for social capital (Ravanera & Rajulton, 2010). Students were asked, "Who do you live with most of the time?" Possible responses included the following: both parents, one parent and step parent, mother, father, brother or sister, grandparents, aunt or uncle, and other. These responses were coded from 1 to 8 in the order listed, starting with both parents as 1. The variable was recoded with 0 = one parent/guardian; 1 = two parents/guardians.

Meals with family. The frequency with which students eat meals with family indicates a certain quality of connections within the family structure. Students were given the prompt, "thinking about the places you usually eat," for a set of questions regarding the frequency with which they ate at certain locations or in certain company. The item we are using to measure the frequency of meals with family asked, "How often do you eat meals with your family?" Available responses "never" = 0 and ending with "all of the time" = 4.

Social capital scale. Four variables assessing social relationships/friendships among students make up the index variable of social capital. While some of these variables were related specifically to food/eating behaviors, others assessed the degree to which students were connected to their friends or best friend. The four variables included in the social capital index asked the following questions: How often did they see their best friend, how often did they have other types of contact with their best friend, how often did they eat meals with their best friend, and how often did they have meals at a friend's house? Possible responses for the first three questions included never or hardly ever, several times a year, at least once a month, once a week, several times a week,

and every day. These responses were coded from 1 to 6 in the order they have been presented. The last question had a different, though similar, set of responses including never, few times, some of the time, most of the time, and all of the time. These were coded from 1 to 5 in the order they are listed. This left us with a social capital scale ranging from 4 to 23 that showed moderate reliability with a Cronbach's alpha = .61 ($M = 13.4$; $SD = 3.8$).

Close friends. To get an idea of how broad each students' social network of close friends was, we asked, "How many close friends (people you see or have daily contact with) do you have?" Students could respond with any number.

Analytic Strategy

Our analysis begins with a preliminary examination of the descriptive statistics and correlation coefficients of key variables. To directly test the hypothesis related to circumstances and social resources, we use a hierarchical linear regression approach allowing for model comparisons. We introduce a series of nested multiple regression models that examine both the main effects and the hypothesized buffering effects. Variables in these regression models are introduced in a series of blocks to help estimate the collective influence of each separate set of variables (i.e., controls, circumstances, indicators of social capital, and interaction terms), giving us a more nuanced understanding of their combined and unique impact on our dependent variable—food insecurity. Model 1 introduces the control variables—sex and race. Model 2 introduces variables of circumstance—poverty and limited accessibility. Model 3 introduces the key variables of interest—four indicators of social capital. Finally, Model 4 introduces several interaction terms that allow us to test the buffering hypothesis. As each new model is introduced, we can assess whether their addition offers any improvement to previous models in terms of statistical significance and variation explained; moreover, we can assess shifts in the coefficients and statistical significance of previously entered variables after new variables are introduced. The order they are introduced allows us to focus primarily on the impact of social capital variables and interaction terms by giving us insight into how much additional variation in food insecurity they collectively explain after the models including only controls and circumstances has already been considered.

Results

As shown in Table 1, the average level of food insecurity was 1.89 on a scale ranging from 0 to 10 ($SD = 2.37$). The average age in the sample was

Table 1. Descriptive Statistics for Sample Characteristics (N = 317).

	%	M	SD
Dependent variable			
Food insecurity scale (0-10)	—	1.89	2.37
Demographic characteristics			
Age	—	11.42	0.909
Sex (1 = female)	55	—	0.499
Race (1 = non-Hispanic White)	49	—	0.501
Circumstances			
Free and reduced lunch (1 = receiving)	58	—	0.494
Limited accessibility (4 = no access)	—	1.78	0.869
Social capital			
Parents present			0.487
One parent	39	—	—
Two parents	61	—	—
Meals with family (3 = most of the time)	—	3.00	1.08
Social capital scale (4-23)	—	14.34	3.86
Close friends	—	5.91	3.60

approximately 11 years and ranged from 10 to 14. Female students (55%) made up a slight majority while non-Hispanic White students (49%) composed nearly half of the student population. More than half (58%) of the sample received free and reduced lunch at the time of the survey.

Bivariate Relationships

Table 2 shows a significant association between our dependent variable, food insecurity, and all independent variables excluding the control variables, sex and race. All four social capital variables have significant negative relationships with food insecurity.

Multivariate Relationships

Table 3 presents the results of our multiple regression analysis. Model 1 consists solely of control variables allowing us to assess any possible differences in food insecurity across sex and race. While the unstandardized coefficients of Model 1 seem to suggest that females and non-Hispanic Whites have lower levels of food insecurity than males or non-White and/or Hispanic students, these associations are not statistically significant. Model 1 itself is also non-significant in its collective influence. Nevertheless, we leave these variables

Table 2. Correlations Among Model Variables ($N = 317$).

	1	2	3	4	5	6	7	8
1. Food insecurity								
2. Sex (female)	-.052							
3. Race (non-Hispanic White)	-.006	-.058						
4. Free and reduced lunch	.266***	-.051	-.275***					
5. Limited accessibility	.174***	.016	.140**	-.075				
6. Parents present	-.208***	-.123*	.086	-.234***	.053			
7. Meals with family	-.275***	.030	.064	-.082	-.132**	.079		
8. Social capital scale	-.126*	.191***	-.064	-.052	-.175***	-.065	-.016	
9. Close friends	-.131**	.132**	-.054	-.116*	-.120*	.003	.001	.023

* $p < .05$. ** $p < .01$. *** $p < .001$ (one-tailed).

Table 3. Food Insecurity Regression Models ($N = 317$).

Variables	Model 1	Model 2	Model 3	Model 4
	b (β)	b (β)	b (β)	b (β)
Controls				
Sex (1 = female)	-.250 (-.052)	-.179 (.069)	-.112 (-.024)	-.007 (-.001)
Race (1 = non-Hispanic White)	-.044 (-.009)	.213 (.800)	.245 (.052)	.130 (.027)
Circumstances				
Free and reduced lunch		1.40 (.291)***	1.06 (.219)***	1.97 (.408)**
Limited accessibility		.520 (.190)***	.369 (.135)*	.919 (.336)**
Social capital				
Family social capital				
Parents present			-.774 (-.159)**	.173 (.035)
Meals with family			-.506 (-.231)**	-.466 (-.213)**
Peer social capital				
Social capital scale			-.059 (-.096)*	-.076 (-.123)*
Close friends			-.053 (-.081)	-.048 (-.073)
Buffering effects				
Parents Present \times Free Lunch			-.145 (-.281)**	
Parents Present \times Limited Access			-.870 (-.255)**	
Social Capital \times Limited Access			.039 (.061)	
Constant	2.05	0.143	3.72	2.19
df	2	2	4	3
R^2	.003	.112***	.202***	.249***

* $p < .05$. ** $p < .01$. *** $p < .001$ (hierarchical F -test R^2 change).

in subsequent models to control for any differences emerging in the impact of circumstance or capital variables across sex or racial categories.

With the addition of circumstance variables, the second model is significant at $p < .001$. Sex and race remain nonsignificant in this model. Both variables of negative circumstance, poverty and limited accessibility, have

significant positive associations with food insecurity. Looking at the unstandardized coefficients of these circumstance variables in Model 2, we get an idea of the predicted change in food insecurity for those living in poverty or with one-unit worse accessibility. For a child experiencing poverty, we predict an average increase in food insecurity of 1.40. For students with poorer access to food, there is an average increase of .520 in food insecurity. The combined influence of these circumstances explains approximately 11.9% of the variation in child food insecurity—an increase of 11.0% from the earlier block of control variables.

In Model 3, family and peer social capital variables are added. The family social capital variables have negative slopes, suggesting that the presence of two parents and eating with family more frequently are both associated with lower levels of food insecurity. Both family social capital variables are statistically significant. The results of the peer social capital variables are mixed. The social capital scale has a significant negative association with food insecurity at $p < .05$. However, the number of close friends reported was not statistically significant. The family capital variable most directly tied to eating behaviors, meals with family, shows the highest predictive value in Model 3. After eating with your family, free/reduced lunch appears to be the next most important main effect. In addition, we notice that, between all four indicators of social capital, those related to quality rather than quantity appear to have slightly better predictive value according to the standardized coefficients and statistical significance.

While we do see an important influence of social capital indicators on food insecurity, only minimal decrease/shift in coefficients for free/reduced lunch and limited accessibility are observed—Both variables maintain their significance when social capital variables are introduced, but accessibility drops in its significance level. A substantial increase of R^2 from Model 2 to Model 3 suggests that these social capital indicators are important factors for explaining variation in food insecurity. Together, the social capital variables account for an additional 8% of the variation in youth food insecurity, while Model 3 collectively accounts for roughly 20% of the variation.

Altogether, Models 1 through 3 support Hypotheses 1 through 6. Free/reduced lunch is associated with increased food insecurity even when controlling for all other independent variables. Limited accessibility to food is associated with increased food insecurity even while controlling for all other independent variables. All social capital variables in the third model, except for close friends, are significantly associated with decreases in food insecurity even while controlling for all the other independent variables.

As a final step, we test for the buffering effects by analyzing all combinations of Social Capital \times Circumstance interactions, examining significant

change in R^2 in Model 4. Three interactions were significant: Parents Present \times Limited Access, Parents Present \times Free/Reduced Lunch, and Social Capital Scale \times Limited Access. We introduced these significant interaction effects into a fourth step of the regression model. However, as there was significant multicollinearity (as noted by variance inflation factors exceeding standard limits), a decision was made to center the regression effects.

The results of Model 4 show that the main effects of social capital that were significant in Model 3 remain so except for “parents present,” and their stability is unchanged in the presence of these multiplicative effects. As a group, these multiplicative variables significantly increase R^2 . The final model explains nearly 25% of the variation in youth food insecurity. Furthermore, the multiplicative effects suggest that the presence of both parents plays an important buffering role in minimizing both negative circumstances confronting the sampled youth. In both cases where the parent variable is used as a multiplicative effect, we find that despite limited access or poverty (free/reduced lunch), food insecurity is lowered by the presence of both parents. However, that is not the case for the peer social capital variable, “close friends,” that was nonsignificant in this final model. Therefore, we find evidence to partially support Hypothesis 7.

Discussion

Our findings are generally consistent with previous research suggesting that poverty and limited accessibility to food sources are important factors influencing food insecurity (Coleman-Jensen et al., 2015; Dean & Sharkey, 2011; Pine & Bennett, 2014). Environmental and economic circumstances (i.e., poverty and accessibility) are clearly key factors influencing the differential distribution of food insecurity among children. However, the fact that poverty as indicated by receipt of free and reduced lunch remained positively associated with food insecurity suggests a couple things. First, it suggests that the program is targeting the appropriate population of students—The reduced price is going to students whose families are struggling significantly enough that the students themselves are aware of the problem. Second, while this program is likely helpful to those families that receive it, it is not enough to reduce their food insecurity below levels experienced by youth who do not receive the program benefit. Funding for these programs should be increased rather than cut.

Findings are also consistent with the few studies examining social capital and food insecurity (Dean & Sharkey, 2011; Garasky et al., 2006; K. S. Martin et al., 2004); family and peer social capital are associated with lower levels of food insecurity for middle school youth even when controlling for

key sociodemographic and circumstance variables. Moreover, certain forms of social capital—specifically, the presence of two parents—appear to act as a buffer against the disadvantages of poverty and limited accessibility. The family played a special role in this study, as in others that have examined the importance of the family dynamic in lowering risk among youth (De Silva & Harpham, 2007; Hadley et al., 2008; Misselhorn, 2009). While youth with more peer social capital appear to experience less severe food insecurity than those with fewer and shallower connections, these peer relationships do not significantly moderate the powerful negative influences of poverty and limited access to food; yet, the presence of both parents appears to do just that. Even when faced with structural poverty and/or limited access to food sources, two-parent families have lower food insecurity than those families with only one parent present.

The unique capability of two-parent families to act as a buffer against poverty and limited access to food suggests that this form of family social capital is a critical social resource for reducing youth food insecurity. Of course, part of the explanation for this buffering capability is likely due to the increased resources that come with multiple income earners. However, the influence of two-parent homes was significant even in the presence of poverty and low accessibility. Thus, it is likely that some of the advantages of a two-parent household are not directly related to income but the care and support spread throughout the family that can make a typical day, and the reproductive labor (i.e., feeding children) that a typical day entails, easier to navigate.

Of course, as Portes (1998) has pointed out in his discussion of the double-edged character of social capital, excess claims on kinship obligations can also make familial ties burdensome. The burdens and benefits of social capital may be unevenly spread even within a single household, burdens being particularly high for mothers and daughters who deal with heightened expectations for care and feeding practices (DeVault, 1994; Hadley et al., 2008; M. A. Martin & Lippert, 2012). Moreover, relying too much on social support can be stressful or stigmatizing because long-term dependence on these networks for food is not considered socially acceptable (Whittle et al., 2015). Thus, while these findings highlight the importance of social capital both within and outside of the family, these social resources may be depleted if families are not supported through social policies that make it easier for families to support one another.

This study also extends what past research (e.g., Connell et al., 2005) has suggested about the role of relationships among youth themselves by demonstrating the link between social capital and youth food insecurity. Understanding that youth are key actors in the web of relationships that connect individuals

to food requires a rethinking of both research and policies that target their insecurity. However, like family ties and support, friendships which have capacity to protect against youth food insecurity must also be fostered rather than overburdened by being relied on too frequently.

Policy Implications

While our study highlights the importance of family structure in shaping food insecurity for youth, we believe it would be a mistake to view these results as a call for the type of marriage promotion policies that followed the welfare reform of the 1990s. Two decades after the Personal Responsibility and Work Opportunity Reconciliation Act was signed, the evidence has been overwhelming that these policies failed families, especially single mothers and their children—They did not reduce poverty or improve marriage rates (Randles, 2016).

Some key lessons to be learned from those policy failures are that, although two-parent households may hold some advantages when faced with poverty, marriage promotion is not the solution to poverty, and that support rather than punitive policy is needed for single parents. Rather than viewing single parents as the cause of their own material hardships, policy makers should view them as a population where public assistance could have the largest impact. Universal childcare would be a major step forward for both single and married parents who often struggle to balance their need to work with the rising costs of care.

In addition, the National School Lunch Program has been successful but clearly needs to be strengthened further to match the needs of food insecure youth. Some areas that have extended the program into the summer months also offer lunches at additional sites through new mobile services and partnerships with other community organizations. These policies have promise not just because they expand the reach of the service but because they are partnering with a wide range of organizations (e.g., Boys and Girls Club) that bring youth together outside of school and strengthen social connections within the community, thus offering both nutritional and social resources.

Limitations and Future Research

While this study has linked social capital to food insecurity, questions concerning causal order remain unanswered without longitudinal data. Indeed, it is likely that the phenomena of social relationships and food insecurity feed into and reinforce one another bidirectionally. Students with more resources and access to food may have some agency in the distribution of those

resources to their peers, in which case they might be more capable than others in strengthening existing relationships as well as attracting more peers as friends. Regardless of temporal order, however, these findings suggest an important role for social capital in predicting youth food insecurity.

Future research should continue to treat children as intelligent and observant participants in their own social worlds, which may yield more accurate accounts of their own experiences with food insecurity and/or health inequality generally (Fram et al., 2011). Clearly, the way that resources flow through or are blocked by relationships is different based on location in both time and space, but the age-grading of experience is also important to consider. Taking this under consideration, future theoretical works must rethink the premises and assumptions of social capital to account for positioning within the life course. In tandem with theoretical development, improvements in measurement and general research design could be made that consider the evolution of social networks throughout the life course.

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