Mother-Perceived Social Capital and Children's Oral Health and Use of Dental Care in the United States

Hiroko Iida, DDS, MPH, and R. Gary Rozier, DDS, MPH

Objectives. We examined the association between mother-perceived neighborhood social capital and oral health status and dental care use in US children.

Methods. We analyzed data for 67 388 children whose mothers participated in the 2007 National Survey of Children's Health. We measured mothers' perceived social capital with a 4-item social capital index (SCI) that captures reciprocal help, support, and trust in the neighborhood. Dependent variables were mother-perceived ratings of their child's oral health, unmet dental care needs, and lack of a previous-year preventive dental visit. We performed bivariate and multivariable logistic regression analyses for each outcome.

Results. After we controlled for potential confounders, children of mothers with high (SCI = 5–7) and lower levels (SCI ≥ 8) of social capital were 15% ($P = .05$) and about 40% ($P \leq .02$), respectively, more likely to forgo preventive dental visits than were children of mothers with the highest social capital (SCI = 4). Mothers with the lowest SCI were 79% more likely to report unmet dental care needs for their children than were mothers with highest SCI ($P = .01$).

Conclusions. A better understanding of social capital's effects on children's oral health risks may help address oral health disparities. (*Am J Public Health.* 2013;103:480–487. doi:10.2105/AJPH.2012.300845)

It is well established that children living in families with low income and low educational attainment have poorer oral health and access to dental care than children with more affluent and educated families.[1,2] Previous research has rigorously described oral health disparities by sociodemographic characteristics of individuals over the years, but only more recently have investigations begun to study the influence of larger contextual, environmental, and societal factors on the population's oral health.[3–6]

As part of this broader interest in the social determinants of health, the social connections that people have within their communities are receiving growing interest in public health research. This interest is rooted, in part, in the potential for people's social connections to reduce health inequities through the mobilization of resources in society to better facilitate access to horizontally and vertically available social capital. Furthermore, social capital in the neighborhood may be particularly important for children's well-being because the neighborhood is usually a central context for children's psychosocial development. Children learn many of their social skills and values from within their neighborhood social networks.[7] Especially in the absence of different kinds of support for children within the family,[8] adult intervention on behalf of children in the neighborhood could serve as an important buffer against stressors and social risk factors embedded in the context of children's lives.

Although there is no consensus definition or a standardized approach to measuring social capital, it usually is thought of as consisting of some aspect of social structure and actions of individuals embedded in that structure.[7] In social cohesion theory, social capital is conceptualized as the collective resources, such as trust, norms, and reciprocity, available to members of social groups, usually defined by geographic locales.[9,10] This "social cohesion" school of social capital has been criticized for overlooking some aspects of social capital such as differences in residents' abilities to access social capital and its potential negative effects on health.[9,11] Nevertheless, greater social capital, measured by various features of social organizations in the community, has been linked to lower mortality and morbidity as well as self-reported better health outcomes.[12] The hypothesized mechanisms are that social capital can influence health through (1) the diffusion of knowledge about health promotion, (2) maintenance of healthy behavioral norms or prevention of deviant health-related behaviors through informal social control, (3) promotion of access to local services and amenities, and (4) psychosocial processes that provide effective support, build self-esteem, and foster mutual respect.[13]

It has been reported in the dental literature that a greater number of churches in neighborhood clusters was associated with the reduced severity of dental caries among low-income African American preschool children residing in Detroit, Michigan.[3] Bramlett et al. previously examined various child-, family-, and neighborhood-level factors available in the 2003 National Survey of Children's Health (NSCH) along with state-level factors from a variety of surveillance and census databases to test a multilevel conceptual model of determinants of young children's oral health.[5] Factors related to neighborhood cohesiveness and physical safety were correlated with parent-rated oral health status in children aged 1 through 5 years.[5] Lower neighborhood social capital and community empowerment opportunities were also linked to higher rates of dental injuries[14] and more dental caries among Brazilian adolescents.[15]

Hypothesized sociobehavioral mechanisms linking social capital to health, empirical evidence on the association of social capital and general health, and initial evidence on the association of social capital–related variables and oral health strongly support further study of its potential impact on children's oral health. It is evident from the literature that maternal oral health status, knowledge, and self-efficacy have a significant influence on children's oral health behaviors and outcomes.[16–19] In addition, gender may affect one's perception of neighborhood social capital, patterns, and

levels of social engagement and community participation.[20,21] Little is known, however, about how social capital is perceived by female caregivers of children and how it might influence their behaviors and their children's oral health. The purposes of this study were, therefore, to (1) describe the distribution of perceived social capital, using population-based data of self-reported neighborhood social cohesion among US mothers of children younger than 18 years, and (2) determine the association between neighborhood social capital and children's oral health status and use of dental care.

METHODS

We relied on data from the 2007 NSCH, a population-based cross-sectional survey that uses a complex probability sampling design. This survey is a component of the State and Local Area Integrated Telephone Survey conducted by the National Center for Health Statistics of the Centers for Disease Control and Prevention.[22] The survey includes a variety of questions about child health and access to care, including those related to physical, behavioral, mental, and oral health, as well as information on family and neighborhood.

Details of the sampling design and procedures for this survey have been described elsewhere.[22] In brief, interviews were conducted over the household landline telephone using the telephone numbers randomly generated for the National Immunization Survey. An additional sample was drawn for the sole purpose of administering the NSCH in 9 states in which the National Immunization Survey sample did not provide the desired sample size (approximately 1800 per state and the District of Columbia). Interviews were completed for 91 642 children aged from birth through 17 years between April 2007 and July 2008. Once a household with any children younger than 18 years was reached by a random-digit-dial telephone call, 1 child was selected to be the subject of the survey. The selection was random in those households with more than 1 eligible child. Interviews were conducted with the adult who was most knowledgeable about the child's health status, usually the child's parent. In 2007, 74% of survey respondents were the mother (biological, step, foster, or adoptive) and 20% the father (biological, step, foster, or adoptive).

Variables

We used 3 categorical dependent variables: (1) mother's perceived condition of her child's teeth (5-point Likert scale, grouped as fair to poor, good, and very good to excellent for the analysis), (2) maternal report of child's use of preventive dental care in the past 12 months (yes vs no), and (3) maternal report of child's unmet dental care needs based on the question about whether there was a time when needed dental care was delayed or not received during the past 12 months (yes vs no). The question regarding the condition of the child's teeth was only asked about children aged older than 12 months.

The primary independent variable of interest was mother's perceived social capital, which, in this survey, captured her perception of reciprocal help, support, and trust in the neighborhood. Mothers were asked their level of agreement (4 levels from definitely agree = 1 to definitely disagree = 4) with each of the following 4 statements: "People in the neighborhood help each other out," "We watch out for each other's children in this neighborhood," "There are people I can count on in this neighborhood," and "If my child were outside playing and got hurt or scared, there are adults nearby who I trust to help my child." The response codes for these 4 variables were summed to create a social capital index (SCI) that ranged in its value from 4 (highest) to 16 (lowest) as previously described by Singh et al.[23] We grouped the SCI scores into the following 4 categories: highest (SCI = 4), high (SCI = 5–7), low (SCI = 8–10), and lowest (SCI ≥ 11) based on the frequency distribution of index scores.[23]

We selected the following variables available in the data set as covariates based on a conceptual model of children's oral health[4,5] as well as previously suggested associations with social capital[12,24,25]: child's age in years, gender, race/ethnicity, special health care needs based on the outcome of the children with special health care needs screener,[26] family income based on the federal poverty level,[22] type of health insurance, the presence of a usual source of health advice or care, primary language spoken in the household, mother's highest education, mother's mental health status, family composition (2 biological or adoptive parents, 2 stepparents, single mother and no father present, other), mother's perceived neighborhood safety, and maternal Aggravation in Parenting Scale.

The Aggravation in Parenting Scale was derived from the Parenting Stress Index and the Childrearing Scale.[27] Schieve and her colleagues previously presented a summative measure of parent-perceived ability to cope with day-to-day parenting demands using 3 questions available in the 2007 NSCH.[27] Parents were asked how often in the past month they felt (1) that their child was much harder to care for than most same-aged children, (2) that they were bothered a lot by things the child did, and (3) that they were angry with the child. The outcomes of individual responses to the 3 items, which were coded from 1 (never or rarely) to 4 (always), were combined into a single aggravation scale (score = 3–12). We defined high aggravation in parenting as a composite score of greater than 8.25.[27]

Analyses

Analyses were limited to the subpopulation where interviewees were mothers (unweighted n = 67 388). We performed descriptive analyses to examine the association of outcome variables with social capital for those participants who had nonmissing data for preselected variables. We conducted logistic regression analyses to determine the independent associations of SCI categories and each of the 3 oral health outcomes among children aged 1 to 17 years while we controlled for other variables.

We analyzed data with SUDAAN version 10.0.1 (Research Triangle Institute, Research Triangle Park, NC) to account for the complex survey design and to generate population-level estimates using the weights provided in the publicly released data files.

RESULTS

Approximately 35% of mothers of US children aged younger than 18 years reported the highest stock of social capital (SCI = 4) in the neighborhood, and 9% of mothers perceived that their neighborhoods provided the lowest level of social capital (SCI ≥ 11; Table 1). The lower level of social capital was more common

TABLE 1—Characteristics of Mothers of US Children Aged 0–17 Years by Mother-Perceived Social Capital: 2007 National Survey of Children's Health

Characteristics	Sample Size	Highest SCI (SCI = 4), % (SE)	High SCI (SCI = 5–7), % (SE)	Low SCI (SCI = 8–10), % (SE)	Lowest SCI (SCI ≥ 11), % (SE)
Overall	65 053	34.9 (0.5)	35.8 (0.5)	20.0 (0.4)	9.3 (0.3)
Mother's age, y					
21–29	8959	24.5 (1.1)	34.2 (1.2)	23.6 (1.1)	17.8 (1.1)
30–39	24 555	33.4 (0.7)	36.4 (0.8)	21.1 (0.7)	9.1 (0.4)
40–49	24 362	41.8 (0.8)	35.2 (0.8)	17.2 (0.7)	5.8 (0.4)
≥ 50	6438	37.8 (1.7)	38.5 (1.7)	17.5 (1.4)	6.2 (1.3)
Mother's highest education					
> high school	47 128	38.9 (0.6)	35.7 (0.6)	18.7 (0.5)	6.6 (0.3)
≤ high school	17 733	28.1 (0.8)	36.1 (0.9)	22.1 (0.8)	13.7 (0.7)
Family income by federal poverty level, %					
> 400	21 990	47.0 (0.9)	34.5 (0.8)	14.8 (0.6)	3.7 (0.4)
200 to < 400	20 664	37.9 (0.9)	36.4 (0.8)	19.4 (0.7)	6.3 (0.5)
100 to < 200	10 329	26.6 (1.0)	38.0 (1.2)	23.1 (1.0)	12.4 (0.8)
< 100	7195	20.5 (1.0)	34.7 (1.3)	25.2 (1.2)	19.6 (1.1)
Family language					
English	60 574	36.7 (0.5)	36.2 (0.5)	18.6 (0.4)	8.6 (0.3)
Non-English	4458	23.4 (1.6)	33.7 (1.7)	29.1 (1.8)	13.9 (1.3)
Mother's mental health					
Excellent to very good	48 641	39.2 (0.5)	35.6 (0.6)	18.5 (0.5)	6.7 (0.3)
Good	12 593	26.4 (1.0)	37.6 (1.1)	23.5 (1.0)	12.5 (0.8)
Fair to poor	3759	18.9 (1.4)	33.2 (1.9)	24.0 (1.6)	24.0 (1.9)
Maternal Aggravation in Parenting Scale					
3–7 (low)	57 338	36.4 (0.5)	35.9 (0.5)	19.5 (0.4)	8.1 (0.3)
8–16 (high)	7715	25.6 (1.1)	35.3 (1.4)	22.7 (1.2)	16.3 (1.2)
Family structure					
Two-parent biological or adopted	47 089	39.0 (0.6)	36.1 (0.6)	18.4 (0.5)	6.5 (0.3)
Two-parent stepfamily	4894	30.9 (1.7)	37.7 (1.7)	20.7 (1.7)	10.7 (1.0)
Single mother, no father	12 628	23.1 (0.8)	34.3 (1.0)	24.8 (0.9)	17.7 (0.9)
Other	394	34.2 (4.4)	39.9 (4.7)	17.6 (3.1)	8.3 (2.9)
Child's age, y					
0–5	19 863	32.0 (0.8)	35.1 (0.9)	21.9 (0.8)	11.0 (0.6)
6–11	19 624	37.5 (0.8)	34.6 (0.8)	19.6 (0.7)	8.3 (0.5)
12–17	25 566	35.5 (0.8)	37.7 (0.8)	18.4 (0.7)	8.4 (0.5)
CSHCN status					
Non-CSHCN	51 437	35.2 (0.5)	36.0 (0.5)	20.2 (0.5)	8.6 (0.3)
CSHCN	13 616	34.0 (1.0)	35.1 (1.0)	19.1 (0.8)	11.8 (0.8)
Child's gender					
Male	33 639	35.1 (0.6)	35.6 (0.7)	20.2 (0.6)	9.1 (0.4)
Female	31 343	34.7 (0.7)	36.1 (0.7)	19.8 (0.6)	9.4 (0.5)
Child's race/ethnicity					
Non-Hispanic White	45 076	42.4 (0.5)	36.6 (0.5)	15.6 (0.4)	5.4 (0.3)
Non-Hispanic Black	6018	20.5 (1.0)	34.4 (1.2)	27.8 (1.2)	17.4 (1.0)
Hispanic	8169	25.2 (1.3)	33.9 (1.4)	26.2 (1.3)	14.8 (1.1)
Other	5368	29.2 (1.7)	37.1 (1.9)	23.7 (1.7)	10.0 (1.0)

Continued

TABLE 1—*Continued*

Neighborhood safety					
Mother always feels safe in the neighborhood	34 758	48.3 (0.7)	34.2 (0.7)	12.6 (0.5)	4.9 (0.4)
Mother usually feels safe in the neighborhood	22 953	24.5 (0.7)	41.5 (0.8)	26.4 (0.8)	7.6 (0.5)
Mother sometimes feels safe in the neighborhood	6055	11.3 (1.0)	31.4 (1.5)	34.4 (1.4)	22.8 (1.3)
Mother never feels safe in the neighborhood	1209	11.2 (2.7)	13.7 (1.7)	19.7 (2.3)	55.4 (3.3)

Note. CSHCN = child with special health care needs; SCI = social capital index. All percentages were weighted to represent the prevalence of mother-perceived SCI among US children aged 0–17 years (weighted n = 55 931 in thousands).

among mothers who were younger, were single, had children who were non-White, had children younger than 6 years, had a stepchild, had a child with special health care needs, were educated at the level of high school or less, had self-reported poorer mental health status and higher aggravation in parenting scores, had lower family incomes, spoke a non-English language at home, and perceived their neighborhood as being less safe.

In bivariate analyses, mothers' perceived neighborhood SCI was linearly associated with their children's oral health outcomes (Table 2). Compared with mothers who perceived higher neighborhood social capital, mothers who perceived a lower level of social capital rated the condition of their children's teeth as poorer, reported more unmet dental care needs for their children, and were more likely to report their childrens' lack of a preventive dental visit during the previous 12 months.

After we controlled for potential confounders in the multivariable logistic regression models, the mother's perceived social capital was associated with children's unmet dental care needs and the use of preventive dental care, but not with the reported condition of children's teeth (Table 3). Children whose mothers perceived high (SCI = 5–7) and lower levels (SCI = 8–10; SCI ≥ 11) of social capital were 15% ($P = .05$) and about 40% ($P \leq .02$) more likely to have no preventive dental visit in the past 12 months, respectively, compared with children whose mothers reported highest social capital (SCI = 4). Mothers with lowest SCI were also 79% more likely to report unmet dental care needs for their children than were mothers who reported highest social capital ($P = .01$).

The association between mother-perceived neighborhood SCI and fair or poor condition of the child's teeth approached statistical significance ($P = .07$) at the lowest level of social capital (SCI ≥ 11). Factors associated ($P \leq .05$) with children's fair or poor condition of teeth included child's age (≥ 6 years), male gender, Hispanic ethnicity, Black race, having special health care needs, having no health insurance, lower family income, mothers' educational attainment at high school or less, living in non–English-language–speaking family, maternal higher aggravation in parenting, and poorer maternal mental health status. Lower family income, the lack of health insurance, and poorer maternal mental health status were consistently and negatively associated with all 3 oral health outcome measures at a statistically significant level.

DISCUSSION

To our knowledge, this is the first study to comprehensively examine the association between maternal perceived social capital and their children's oral health outcomes in the United States. Results indicate that mother's stock of social capital—such as trust, reciprocity, and help available for children in the neighborhood—is independently associated with the child's use of dental care.

The positive association between social capital and children's use of dental care may be explained by increased opportunities for mothers to access information and norms of oral health behavior as well as resources to help support children's dental visits through reciprocal exchanges and collective efficacy in the neighborhood. For example, neighbors in locales with high social capital might be willing to help each other in resolving problems in gaining access to dental care that arise, such as providing transportation for children's dental appointments or child care when a mother needs to take 1 of her children to a dentist. Nahouraii et al. previously reported that the amount of influential, material, and emotional social support available for Latina immigrants was associated with their children's use of dental care.[28] Furthermore, neighborhoods with a high level of social capital may be more likely to make available safety-net dental clinics or formal social support systems such as case workers or care coordinators, both of whom would promote professional assistance in community members' access and use of oral health care.

We found that the maternal SCI was associated with children's oral health status at only a marginally statistically significant level, even when we compared groups with the highest and lowest levels of SCI. Mother-reported condition of a child's teeth can differ from the actual clinical condition of the child's teeth, and serves as one explanation of our findings. The results also might be confounded by child's use of professional dental care because parents usually are more knowledgeable about their child's dental problems after a dental visit.[5] It is well established, however, that biological and dietary factors play a significant role in the occurrence and progression of dental caries. Therefore, our findings that showed a stronger influence of factors in the more proximal causal pathway for child oral health than neighborhood-level social capital on mothers' perceived condition of their child's teeth might be expected.

The literature provides support for the hypothesis that health behaviors may form part of a possible mediating pathway between social capital and health.[29] Social capital has been, in fact, found to be associated with various health behaviors, such as physical activity,[30,31] dietary habits,[30] tobacco smoking,[32] and

TABLE 2—Prevalence of Mother-Perceived Condition of Teeth, Dental Care Needs, and Preventive Dental Visit in the Previous 12 Months Among US Children Aged 1–17 Years by Mother's Social Capital Variables: 2007 National Survey of Children's Health

		Condition of Teeth			Dental Care Needs		Preventive Dental Visit	
SCI Indicators	Sample Size	Excellent or Very Good, % (SE)	Good, % (SE)	Fair or Poor, % (SE)	Met, % (SE)	Unmet, % (SE)	≥ 1, % (SE)	0, % (SE)
Neighborhood Social Capital Index								
Highest (SCI = 4)	24 066	77.5 (0.8)	17.0 (0.7)	5.5 (0.4)	98.0 (0.2)	2.0 (0.2)	82.0 (0.7)	18.0 (0.7)
High (SCI = 5–7)	22 314	71.4 (0.8)	20.5 (0.7)	8.1 (0.6)	97.0 (0.3)	3.0 (0.3)	78.4 (0.7)	21.6 (0.7)
Low (SCI = 8–10)	10 854	67.1 (1.2)	23.2 (1.0)	9.7 (0.8)	96.7 (0.4)	3.3 (0.4)	75.0 (1.1)	25.0 (1.1)
Lowest (SCI ≥ 11)	4346	54.8 (1.9)	28.0 (1.7)	17.2 (1.7)	93.8 (1.0)	6.2 (1.0)	72.5 (1.7)	27.6 (1.7)
Neighbors help each other out								
Definitely agree	29 861	75.6 (0.7)	17.7 (0.6)	6.7 (0.5)	97.7 (0.2)	2.3 (0.2)	80.7 (0.6)	19.3 (0.6)
Somewhat agree	26 597	71.3 (0.7)	21.1 (0.7)	7.7 (0.5)	96.9 (0.2)	3.1 (0.2)	77.6 (0.7)	22.4 (0.7)
Somewhat disagree	3747	57.6 (2.1)	28.2 (1.9)	14.2 (1.8)	95.2 (0.8)	4.8 (0.8)	70.9 (2.0)	29.1 (2.0)
Definitely disagree	2350	52.3 (2.5)	27.8 (2.2)	19.9 (2.2)	94.1 (1.4)	5.9 (1.4)	76.1 (1.9)	23.9 (1.9)
Neighbors watch each other's children								
Definitely agree	36 084	73.8 (0.6)	19.3 (0.6)	7.0 (0.4)	97.5 (0.2)	2.5 (0.2)	80.5 (0.5)	19.5 (0.5)
Somewhat agree	20 239	69.9 (0.8)	21.4 (0.7)	8.7 (0.6)	97.0 (0.3)	3.0 (0.3)	76.9 (0.8)	23.1 (0.8)
Somewhat disagree	3542	63.9 (2.2)	24.2 (1.9)	11.9 (1.8)	95.6 (0.7)	4.4 (0.7)	72.2 (2.0)	27.9 (2.0)
Definitely disagree	2564	56.0 (2.6)	24.2 (2.0)	19.9 (2.5)	93.1 (1.5)	6.9 (1.5)	73.0 (2.4)	27.0 (2.4)
There are people I can count on in the neighborhood								
Definitely agree	40 834	75.5 (0.6)	18.1 (0.5)	6.4 (0.4)	97.5 (0.2)	2.5 (0.2)	81.0 (0.5)	19.0 (0.5)
Somewhat agree	15 768	67.0 (1.0)	22.9 (0.9)	10.1 (0.7)	97.0 (0.3)	3.0 (0.3)	75.3 (0.9)	24.7 (0.9)
Somewhat disagree	3088	59.8 (2.3)	26.8 (2.2)	13.4 (1.6)	94.8 (1.0)	5.2 (1.0)	72.9 (2.1)	27.1 (2.1)
Definitely disagree	2964	54.6 (2.1)	28.4 (1.9)	17.1 (2.1)	94.0 (1.2)	6.0 (1.2)	71.9 (2.0)	28.1 (2.0)
There are adults who I trust to help my child if he or she were outside playing and got hurt or scared								
Definitely agree	44 053	74.2 (0.6)	18.9 (0.5)	6.9 (0.4)	97.5 (0.2)	2.5 (0.2)	80.3 (0.5)	19.7 (0.5)
Somewhat agree	13 228	65.2 (1.1)	23.9 (0.9)	10.9 (0.8)	96.7 (0.4)	3.4 (0.4)	75.1 (1.0)	24.9 (1.0)
Somewhat disagree	2710	65.2 (2.5)	23.3 (2.3)	11.5 (1.8)	93.5 (1.6)	6.5 (1.6)	72.5 (2.1)	27.5 (2.1)
Definitely disagree	2618	56.5 (2.3)	26.7 (2.0)	16.9 (2.2)	95.0 (0.8)	5.0 (0.8)	72.1 (2.1)	27.9 (2.1)

Note. SCI = Social Capital Index. All percentages are weighted to represent oral health outcomes among US children aged 1–17 years (weighted n = 52 722 in thousands).

alcohol consumption,[33] some of which are established major determinants of many chronic diseases.[34] In this study, a greater amount of neighborhood social capital was positively and independently associated with the use of dental care for children. It is possible, therefore, that social capital may take complex pathways to have an impact on the population's oral health through psychosocial and behavioral pathways discussed earlier (i.e., shaping norms, enforcing social control, and enabling or not enabling people to access oral health services). A future study that comprehensively examines individual and social determinants of oral health in a defined neighborhood and social networks using a longitudinal design might provide more definite information on the possible causal pathways from social capital to oral health behaviors, and oral health outcomes.

Strengths and Limitations

A strength of this study is the use of data from a large population-based national survey to study the influence of social capital on children's oral health outcomes through the perspectives of mothers, who usually take major childrearing responsibilities. The 2007 NSCH, however, collected data only from those households with landline telephones. It has been estimated that 1 in 4 American households has no landline telephone today. Cell phone–only Americans are more likely to be younger and less affluent, and less likely to be married or to own their home than the landline telephone users.[35] Therefore, the relationship between social capital and children's oral health outcomes in this study may be underestimated. The use of cross-sectional data also makes it impossible to determine causal pathways.

Another limitation of the study is that we were unable to assess the influence of social cohesion beyond the neighborhood level. Mothers may have social relationships and social support networks for children outside their local neighborhoods. Furthermore, we measured social capital at the individual (child's

TABLE 3—Multivariable Logistic Regression Analyses for Mother-Perceived Fair or Poor Condition of Teeth, Unmet Dental Care Needs, and No Preventive Dental Visit in the Past 12 Months Among US Children Aged 1–17 Years: 2007 National Survey of Children's Health

Variables	Fair or Poor Condition of Teeth[a]		Unmet Dental Care Needs[b]		No Preventive Dental Visit[c]	
	AOR (95% CI)	*P*	AOR (95% CI)	*P*	AOR (95% CI)	*P*
Social Capital Index (SCI)						
Highest (SCI = 4; Ref)	1.00		1.00		1.00	
High (SCI = 5–7)	1.11 (0.87, 1.43)	.40	1.14 (0.81, 1.61)	.46	1.15 (1.00, 1.33)	.05
Low (SCI = 8–10)	1.02 (0.76, 1.36)	.9	1.17 (0.80, 1.72)	.42	1.40 (1.17, 1.68)	<.001
Lowest (SCI ≥ 11)	1.39 (0.97, 1.96)	.07	1.79 (1.14, 2.80)	.01	1.38 (1.05, 1.81)	.02
Child's age, y						
1–5 (Ref)	1.00		1.00		1.00	
6–11	2.71 (2.10, 3.49)	<.001	1.50 (1.06, 2.13)	.02	0.11 (0.09, 0.13)	<.001
12–17	1.78 (1.36, 2.33)	<.001	1.52 (1.08, 2.15)	.02	0.14 (0.12, 0.16)	<.001
Child's gender						
Male (Ref)	1.00		1.00		1.00	
Female	0.80 (0.66, 0.97)	.02	0.80 (0.63, 1.03)	.08	0.88 (0.78, 1.00)	.04
Child's race/ethnicity						
Non-Hispanic White (Ref)	1.00		1.00		1.00	
Non-Hispanic Black	1.36 (1.03, 1.79)	.03	0.56 (0.33, 0.92)	.02	0.95 (0.77, 1.16)	.59
Hispanic	2.25 (1.58, 3.20)	<.001	0.74 (0.41, 1.31)	.3	1.01 (0.80, 1.27)	.95
Other	1.13 (0.81, 1.56)	.47	0.97 (0.68, 1.40)	.89	0.95 (0.77, 1.18)	.67
CSHCN status						
Non-CSHCN (Ref)	1.00		1.00		1.00	
CSHCN	1.58 (1.26, 1.97)	<.001	1.37 (1.02, 1.83)	.04	0.87 (0.74, 1.02)	.08
Health insurance						
Private (Ref)	1.00		1.00		1.00	
Public	1.25 (0.95, 1.66)	.11	1.23 (0.85, 1.80)	.28	0.61 (0.51, 0.74)	<.001
None	1.50 (1.11, 2.02)	.008	2.78 (1.97, 3.92)	<.001	2.19 (1.72, 2.80)	<.001
Regular place to go for health advice						
Yes (Ref)	1.00		1.00		1.00	
No	1.28 (0.85, 1.93)	.24	1.31 (0.74, 2.30)	.35	1.51 (1.12, 2.02)	.007
Family income by federal poverty level, %						
> 400 (Ref)	1.00		1.00		1.00	
200 to < 400	1.60 (1.12, 2.29)	.01	1.83 (1.15, 2.89)	.01	1.61 (1.38, 1.87)	<.001
100 to < 200	2.16 (1.42, 3.27)	<.001	3.91 (2.34, 6.55)	<.001	2.93 (2.38, 3.60)	<.001
< 100	2.40 (1.51, 3.82)	<.001	3.51 (1.92, 6.42)	<.001	3.18 (2.50, 4.05)	<.001
Mother's highest education						
> high school (Ref)	1.00		1.00		1.00	
≤ high school	1.48 (1.20, 1.81)	<.001	0.81 (0.61, 1.08)	.15	1.17 (1.01, 1.35)	.04
Family language						
English (Ref)	1.00		1.00		1.00	
Non-English	1.73 (1.19, 2.50)	.004	0.54 (0.27, 1.09)	.09	1.01 (0.77, 1.32)	.94
Family structure						
Two-parent biological or adopted (Ref)	1.00		1.00		1.00	
Two-parent stepfamily	1.13 (0.75, 1.71)	.56	1.00 (0.69, 1.44)	.99	0.97 (0.73, 1.27)	.8
Single mother, no father	1.00 (0.78, 1.27)	.97	1.22 (0.88, 1.68)	.23	0.77 (0.65, 0.92)	.004
Other	1.13 (0.48, 2.64)	.78	3.84 (1.54, 9.62)	.004	2.41 (1.32, 4.42)	.004

Continued

TABLE 3—*Continued*

Maternal Aggravation in Parenting Scale						
3–7 (low) (Ref)	1.00		1.00		1.00	
8–16 (high)	1.53 (1.20, 1.95)	<.001	1.14 (0.78, 1.66)	.49	0.90 (0.74, 1.10)	.31
Mother's mental health status						
Excellent or very good (Ref)	1.00		1.00		1.00	
Good	1.38 (1.11, 1.72)	.005	1.50 (1.07, 2.09)	.02	1.10 (0.94, 1.29)	.23
Fair or poor	2.54 (1.93, 3.34)	<.001	2.20 (1.48, 3.27)	<.001	1.64 (1.27, 2.13)	<.001
Neighborhood safety						
Mother always feels safe in the neighborhood (Ref)	1.00		1.00		1.00	
Mother usually feels safe in the neighborhood	1.08 (0.86, 1.36)	.5	1.34 (1.00, 1.80)	.05	0.82 (0.71, 0.94)	.005
Mother sometimes feels safe in the neighborhood	1.24 (0.92, 1.68)	.17	1.40 (0.96, 2.05)	.08	0.77 (0.62, 0.96)	.02
Mother never feels safe in the neighborhood	0.81 (0.48, 1.37)	.43	0.75 (0.42, 1.34)	.33	0.73 (0.50, 1.06)	.1

Note. AOR = adjusted odds ratio; CI = confidence interval; CSHCN = child with special health care needs.
[a]Weighted n = 45 353 in thousands.
[b]Weighted n = 45 358 in thousands.
[c]Weighted n = 45 352 in thousands.

mother) level, and perception of social capital among individuals is arguably shaped by social cohesion at higher spatial levels. A multilevel analysis, which includes neighborhood-level socioeconomic variables as well as individual-level variables such as home ownership and length of residency in the defined reference area, might help to better understand the effect of ecological as well as individual social capital on children's use of dental care. In addition, child's oral health status and dental needs in this study were based on maternal reports and not confirmed by clinical examination; thus, bias is possible.

Population-based oral health interventions such as water fluoridation and school-based sealant programs have improved children's oral health significantly during the past several decades. However, a disproportionately larger prevalence of dental caries and lower use of oral health services in socially and economically deprived groups compared with other groups remain significant public health concerns in our country. Interventions designed to improve oral health care generally targeted individuals—that is, they rely heavily on an individual's rational decision-making and behavior—at the expense of consideration of broader contextual factors that may influence the performance and maintenance of such behaviors. These interventions targeted toward individuals have shown limited success in reducing oral health disparities, and there is limited evidence with regard to the effectiveness of population-based behavioral and social oral health interventions to date. Findings from this study and existing evidence linking social capital, oral health measures, and other health conditions suggest the need for further research to investigate social capital as a potential ingredient for communities that promotes healthy oral health and related behaviors.

Conclusions

Mothers' social capital was independently associated with children's use of dental care in this study. The US Department of Health and Human Services has recently announced oral health as one of the nation's top-12 priority areas in Healthy People 2020. Among 26 leading health indicators organized under the 12 topics, "increasing the proportion of children, adolescents and adults who used the oral health care system in the past 12 months" is a leading oral health indicator.[36] To achieve this national oral health goal and address oral health disparities, it is important for us to better understand the factors that affect the population's oral health behaviors, particularly use of dental services. A better understanding of social capital embedded in the local community as well as maternal and child social networks might help (1) identify informal channels of social resources that are useful for oral health promotion, (2) better mobilize such resources for the most vulnerable mothers and children with limited personal resources, and (3) promote bottom-up efforts in changing the population's oral health behaviors. ■

About the Authors

Hiroko Iida is with the Department of Pediatric Dentistry, School of Dentistry, and R. Gary Rozier is with the Department of Health Policy and Management, Gillings School of Global Public Health, University of North Carolina at Chapel Hill.

Correspondence should be sent to Hiroko Iida, DDS, MPH, UNC Koury Oral Health Science Building 4504, CB#7450, Chapel Hill, NC 27599-7450 (e-mail: hiroko_iida@dentistry.unc.edu). Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

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Contributors

H. Iida conceptualized the study, analyzed and interpreted the data, and drafted the article. R. G. Rozier contributed to conceptualization, critical review of the data, and revision of the draft article.

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Human Participant Protection

Because we used a publicly available national data set, institutional human participants review was not required.

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