Stigmatized Neighborhoods, Social Bonding, and Health

The relationship between living in impoverished neighborhoods and poor health is well established, but impacts of neighborhood stigma on health are not well understood. Drawing on long-term research with Latino immigrants, we examine how neighborhood stigma and social bonding affect health in Phoenix, Arizona. During preliminary ethnographic analysis, we developed a novel neighborhood stigma scale. In survey research, we examined effects of neighborhood stigma and social bonding on self-reported physical and mental health. Regression models show that perceived neighborhood stigma and low social bonding are associated with poorer physical and mental health, controlling for other factors.

Introduction

A wide array of ethnographic studies have shown that low-income inner-city neighborhoods are burdened by “discourses of vilification” (Wacquant 2007) and have reputations of being crime-ridden, dangerous, or urban blights, regardless of the reality (e.g., Caldeira 2000; Goldstein 2004; Lobo 1982; Schepers-Hughes 1992; Stack 1974). This reputation can reinforce geographic marginalization within the city; minority and poverty status can “sharply reinforce the production of disrepute” (Sampson and Raudenbush 2004:321). In such cases, stigmas cluster not only socially but also geographically. Ethnographic research has shown how place-related...
Stigma, Neighborhoods, and Health

Stigma can profoundly shape residents’ lives (Airey 2003; Davidson et al. 2008; Kelaher et al. 2010). Further, intersectional stigmas (based on, e.g., place, poverty, ethnicity, disease, and gender) can reinforce each other in ways that amplify their effects on individuals and their structural embeddedness, such as through reinforcing various forms of social exclusion or inequities (e.g., Novick 1997). But there have been few studies in which intersectional vulnerabilities have been uncloaked or disassociated so that they can be understood in relation to each other, including their additive, layered, intersecting, or compounded effects on health (Obermeyer et al. 2009). As a result, explanatory models of how place, stigma, and ill health are connected are not yet well developed, and the pathways remain uncertain (e.g., Link and Phelan 2001). In particular, it is unknown to what extent neighborhood stigma contributes to residents’ ill health, above and beyond the intersecting stigmas of poverty and minority status. Further, the role of social bonds in stigmatized neighborhoods on health outcomes—such as insulating residents from stigma (e.g., Szreter and Woolcock 2004) or exposing them to greater risk (e.g., Kawachi et al. 2008)—remains unclear.

In this article, we draw on our long-term ethnographic research and survey data we collected to trace how neighborhood stigma and social bonding affect residents’ physical and mental health in South Phoenix, an especially vilified urban neighborhood in the city of Phoenix, Arizona. Our research addresses three key questions: (1) Does living in South Phoenix help explain vulnerability to perceiving neighborhood stigma—even once such factors as income and ethnicity are taken into account? (2) Does perceived neighborhood stigma appear to have an independent or additive negative health effect, once other possible stigmas and contextual factors are taken into account? (3) Do social bonds within the stigmatized neighborhood insulate residents from negative health effects, or do they worsen health?

Stigma, Neighborhoods, and Health

Stigma is defined as the social process that allows labeling, stereotyping, status loss, and discrimination—and the related personal experience of anticipated or actual judgment—leading to self-devaluation of one’s moral standing (Goffman 1963; Kleinman and Hall-Clifford 2009; Weiss and Ramakrishna 2006). Stigma around individual and social attributes, including race/ethnicity, sexual orientation, and disease status, is widely recognized as contributing to a range of health problems (Link and Phelan 2001). One mechanism for this is stress response. Among members of stigmatized groups, experiences or even the anticipation of discrimination can increase cortisol levels and blood pressure (James et al. 1984; Krieger 1990). Over time, such stress responses can produce physical and mental health problems. For example, members of stigmatized groups are more likely to suffer from hypertension, coronary heart disease, and stroke (Link and Phelan 2001; Major and O’Brien 2005). Additionally, members of stigmatized groups are more likely to experience psychological distress, anxiety, and depression (Finch et al. 2000; Taylor and Turner 2002). Stigma can also interfere with people’s ability and willingness to seek treatment for stigmatized health conditions such as HIV/AIDS (Chesney and Smith 1999), diabetes (Shiu et al. 2003), and mental illness (Corrigan 2004).

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In this study, we were primarily concerned with the stigma that comes from living in a neighborhood that is not regarded as a “proper place to live” (Popay et al. 2003). Neighborhood stigma, also known as “territorial stigmatization,” is typically constructed around marginality, particularly in the context of urban social structure (Rhodes 2012; Wacquant 2007). Popular perceptions of neighborhood stigma are reinforced by media coverage that constructs and disseminates understandings of stigmatized neighborhoods as crime ridden, frightening, blemished, and even infamous (Devereux et al. 2011). Common markers of urban marginality include residents’ poverty and race, ethnicity, or immigrant status (Permentier et al. 2011; Sampson 2009; Sampson and Raudenbush 2004, Wacquant 1993). Stigmatized places thus extend their taint to residents themselves, creating spoiled or discredited identity (Bush et al. 2001; Davidson et al. 2008). So powerful can the negative social meanings attached to these places be that, as Keene and Padilla (2010) show, the blemish of place can be carried by residents even when they move far away. Neighborhood stigma appears to be especially durable when neighborhoods become perceived as places where residents are “trapped” by poverty, crime, or state neglect (Kearns and Parkinson 2001; Perlman 2006; Permentier et al. 2011).

While spatial patterns of poverty, inequity, and health have long been documented (e.g., Curtis and Jones 1998; Ross 2000), our understanding of the role of spatialized stigma or neighborhood stigma in producing health inequities remains much less developed. In one of the earlier studies investigating this phenomenon, Nations and Monte (1996) examined how residence in stigmatized favelas (urban slums) in northeast Brazil put residents at greater risk of cholera infection and, paradoxically, made them unwilling to seek cholera treatment because of the stigma attached to being perceived as “contaminated, polluted, dangerous” (p. 1017). These findings hinted that the health impacts of neighborhood stigma—both putting residents at greater risk of illness and making it harder for them to obtain medical treatment—were similar to those documented for better-understood stigmas of race/ethnicity and disease.

Beyond infectious disease risk, Davidson and colleagues’ (2008) research showed that residents of stigmatized neighborhoods in northern England and Scotland perceived the complex social inequities that produced stigma as causing premature aging and death. In addition to these physical health outcomes, Airey’s (2003) research in an impoverished neighborhood in Scotland suggests that when residents felt stigmatized and tainted by their neighborhood’s reputation, they experienced anger, shame, and other forms of psychosocial distress. In Australia, Kelaher and colleagues (2010) found that living in stigmatized neighborhoods was associated with poorer physical health (self-reported health status) and mental health (life satisfaction) outcomes.

Recent scholarship argues that these negative health effects may be driven primarily by residents’ perceptions of their neighborhoods as disordered, including stigma stemming from the neighborhoods’ race and class composition, rather than the actual physical conditions of the neighborhood itself (Franzini et al. 2008; Sampson and Raudenbush 2004). Yet, given the tendency of neighborhood stigmas to emerge around clusters of social marginality, it is difficult to know to what extent neighborhood stigma shapes negative health outcomes—above and beyond the effects of related and interlocking stigmas associated with poverty and
race/ethnicity/immigration status. Our first goal in this article is to explore that question.

Social Bonding, Stigma, and Health

Social capital refers to the bonds between people (Boisioly et al. 1995; Chen et al. 2009). In the sociological and anthropological literature, two types of social capital are widely distinguished: bridging and bonding (e.g., Gitell and Vidal 1998). In bridging social capital, bonds exist among people with diverse social positions, status, or power. In bonding social capital, bonds exist among people of similar social status. These bonds help people gain access to different forms of social support, including instrumental, informational, emotional, and companionate (Gottlieb and Bergen 2010). The existence of links between social capital and health outcomes has been documented for a wide range of health conditions (e.g., Kawachi et al. 2008; Kunitz 2004; Szreter and Woolcock 2004). In this article, we explore the complex role that bonding social capital (or “social bonding”) plays in shaping health outcomes, particularly among highly stigmatized populations.

Social capital is often considered as improving health outcomes (Chen et al. 2009; Szreter and Woolcock 2004). For example, greater social capital is linked to improved child development (e.g., Keating 2000), mental health outcomes (e.g., De Silva et al. 2005), and physical health outcomes (e.g., Mohseni and Lindstrom 2007). In stigmatized populations, these effects can be particularly noteworthy. For those with highly stigmatized health conditions, such as HIV/AIDS, social support helps them obtain informational, instrumental, and emotional assistance (e.g., Frumence et al. 2010). Social support can also help people living with HIV/AIDS resist social stigma and its negative health impacts (e.g., Asante 2012). In stigmatized neighborhoods, too, ethnographers have historically argued that social bonding can play a key role in the resilience of the poor. For instance, in Stack’s (1974) ethnography of impoverished African Americans in the U.S. Midwest and Lomnitz’s (1977) ethnography of social networks in a Mexican shantytown, the material and emotional assistance provided by neighbors was depicted as crucial to survival.

However, after neoliberal reforms of the 1990s and 2000s that significantly cut back publically funded social safety nets, scholars have found that these assistance networks are in decline and that the poor no longer have the time or resources to assist their neighbors as they once did (e.g., Gonzalez de la Rocha 2001; Moser 1996; Wutich 2011). Recent scholarship indicates that residents of disadvantaged communities with higher bonding social capital have, on balance, worse health (Caughy et al. 2003; Kawachi 2006; Kim et al. 2006; Mitchell and LaGory 2002; Ziersch and Baum 2004). The emerging consensus has been that “bonding capital within disadvantaged communities may be a health liability rather than a force for health promotion” due to the heavy emotional and material burdens that it imposes on the poor (Kawachi et al. 2008).

This research has highlighted how social support comes at a high emotional, financial, and physical cost—particularly for those already struggling to overcome significant social disadvantages. Given the important role that social bonding can play for those resisting stigma, our second goal in this article is to examine if
greater social bonding is linked to better or worse health outcomes for residents of stigmatized places.

Field Site: South Phoenix, Arizona

Our team (three anthropologists and one urban geographer) has been conducting ethnographic and participatory research on the contexts of health in urban South Phoenix, Arizona, since 2006. South Phoenix is an urban community squeezed between downtown and two major freeways. A primary receiving area for Latino immigrants since the 1880s, especially from Mexico, the neighborhoods are generally comprised of very low to lower-middle-income households, as they have been for several generations. In prior generations, housing covenants across the valley forced minorities into South Phoenix specifically. As a result of these historical processes, South Phoenix has been, since the 1920s, “indelibly marked in the Anglo controlled media as an undesirable district of industry, stockyards, and minorities not suitable for the privileged class” (Bolin et al. 2005:159).

Census 2000 data showed that 70% of those living in South Phoenix are Latino or Latina, 30% of residents were born outside the United States, 17% of households have no one in them who speaks English well, and 25% of families were below the poverty line. The interval since 2006 has been one of traumatic change for this community, including profound hardships following the U.S. financial crisis of 2007 and the lead-up and passage of Arizona Senate Bill 1070 in 2010 designed to target undocumented immigrants for arrest and encourage “self-deportation.” Foreclosures are rife, and out-migration (especially to more welcoming states) has been a common response. South Phoenix is not the only low-income or predominantly Latino neighborhood area in the larger Phoenix metropolitan area, but it is uniquely targeted in negative public discourse around stigmatized issues such as “illegal” immigration, Latino ethnicity, crime, or disease, particularly emphasizing its discredited or vilified status. On this basis, a focus on residents of South Phoenix (in contrast to those of surrounding neighborhoods, including those with equivalent rates of low incomes and minority residents) affords us the opportunity to examine the health effects of neighborhood stigma, above and beyond the effects of stigmas related to low-income and minority status.

Research Design and Methods

This study proceeded in two phases. In Phase 1, we interviewed people living in South Phoenix and a contrasting sample of people living in a very different neighborhood in Scottsdale, Arizona that was predominantly wealthy and white (Anglo). We adapted the approach used by Permentier and colleagues (2008) to examine insider versus outsider perceptions of neighborhood stigma in South Phoenix. We then developed a novel neighborhood stigma scale to address the current lack of such scales in the published literature (e.g., Kelaher et al. 2010:387). In Phase 2, we conducted survey interviews with a different community sample, comprised of people who live in South Phoenix and those who live in similar neighborhoods elsewhere in the
Phoenix valley in order to test our research questions regarding perceived stigma, community social connection and support, and perceived health outcomes. All tools were piloted in both English and Spanish, with back-translations done between the two.

**Phase 1 Procedures**

To explore insider versus outsider perceptions of neighborhood stigma in South Phoenix, we conducted free list interviews in South Phoenix and North Scottsdale, a predominantly upper-income, Anglo, residential region of metropolitan Phoenix, which is 15–30 km northeast of South Phoenix. We recruited 84 residents (46 males, 38 females) of South Phoenix and North Scottsdale. Participants were recruited from public places (e.g., parks and shopping centers) in both neighborhoods. South Phoenix participants were 60% Latino and 44% female; North Scottsdale participants were 22% Latino and 47% female. We asked each participant for a free list of words to describe Scottsdale or South Phoenix. That is, we said: “Please give me 5 words to describe (your neighborhood)” and “Please give me 5 words to describe (other neighborhood).” To analyze the data, we used Smith’s test of salience to determine if perceptions of neighborhoods were emically and etically different. Essentially, Smith’s tests documents how high and frequent word items are on a person’s list, with the assumption that the most salient items will be mentioned sooner and/or more often.

In Phase 1, we also developed and tested a neighborhood stigma scale, designed to capture both enacted stigma (actual experience of discrimination) and perceived stigma (internalized or felt stigma) that includes shame, secrecy or withdrawal, and fear of discrimination (Corrigan 1998; Siyam’kela 2003). We began with possible items that could be adapted from an existing reliable and valid stigma scale related to mental health (King et al. 2007). For example, “I would have better chances in life if I had not had this mental health problem” was modified to “I would have better chances in life if I did not live in this neighborhood.” We then added items identified through ethnographic interviews that included free list procedures (Bernard et al. 1986). An example of an item derived from the free list analysis (later reversed for scale coding) was: “This is a great neighborhood to raise a family.” We then used the think-aloud method of cognitive interviewing (Beatty and Willis 2007) with 45 respondents to explore their comprehension of, ability to answer, and comfort with the 21 scale items. These respondents were residents of greater Phoenix, selected to maximize the local diversity represented. On the basis of cognitive interviewing and factor analysis, we reduced the 21-item scale to a 15-item scale that yielded one major factor (47% of variance). The final scale (Table 1) used in Phase 2 of the study had excellent reliability ($\alpha = .91$). Items were coded as $1 =$ strongly agree, $2 =$ agree, $3 =$ disagree, to $4 =$ strongly disagree, so the possible range for the scale was 15–60.

**Phase 2 Procedures**

In Phase 2, we developed a different survey that included measures to capture individual level of stigma that people placed on their own neighborhood, personal
Table 1. Items on the neighborhood stigma scale developed for this study. Indicated items are reversed for scoring

I am proud of my neighborhood (REVERSED)
People have insulted me because I live in this neighborhood**
Sometimes I feel I am talked down to because I live in this neighborhood**
People think less of me because I live in this neighborhood
People judge me because of where I live
I avoid telling people I live in this neighborhood
Because of where I live, some people avoid me**
I would have better chances in life if I did not live in this neighborhood**
Living in this neighborhood makes it harder to get assistance from authorities
People have been treated badly because they live in this neighborhood
I feel embarrassed because of where I live**
I have been discriminated against (by employers, in education, by health care professionals, police/authorities) because I live in this neighborhood**
Great people live in my neighborhood (REVERSED)
People think better of me because I live in this neighborhood (REVERSED)
This is a great neighborhood to raise a family (REVERSED)

*On King et al. (2007) scale, a “disclosure” item. **On King scale, a “discrimination” item

social capital including community social bonding, self-reported health factors, and demographics. South Phoenix is surrounded by higher income neighborhoods on three sides (and a mountain on the fourth). Our goal was to recruit Latinos and non-Latinos from South Phoenix and those living in otherwise similar neighborhoods but without South Phoenix’s notorious reputation. To this end, we used a major mall at the edge of South Phoenix for recruitment. This specific mall is a major meeting place for friends and family from South Phoenix and for Latinos from similar neighborhoods across the city.

The survey was conducted with 300 participants, of whom 152 were female and 148 were male, between the ages of 18 and 79 years. Interviews were conducted in either English or Spanish, depending on the preference of the respondent. Forty-four percent of respondents self-identified as Latino or Latina, and 37% of all participants lived in low-income neighborhoods. To identify the location of people’s neighborhoods, respondents were asked to provide their zip code and major cross streets for their address, which were then used to identify their census tract. Questions related to immigration and residence history and place of birth are highly sensitive in this community, given the current political climate, so we did not include them.

Analytically, multiple regression models were used to test the Phase 2 survey data for factors that predicted individual levels of perceived neighborhood stigma. Generalized linear mixed modeling was used to identify the influence of perceived neighborhood stigma on self-reported physical and mental health outcomes, allowing us to take into account the effects of people’s nesting within specific neighborhoods.
Construction of Variables from Phase 2 Surveys

Independent variables. Neighborhood stigma: Measures of perceived neighborhood stigma were derived from the scores taken on the novel scale developed in Phase 1.

Bonding social capital: To measure the social bonding capital of individuals we used an adaptation of Chen et al.’s (2009) personal social capital scale, because this had been previously applied in a cross-cultural, non-English-language setting. The adapted instrument included 22 items related to bonding capital that covered the total number of people known in various categories (family members, relatives, people in the neighborhood, coworkers, others), those in routine contact, level of trust, and access to definite assistance. Summary measures of bonding capital were based on summation of scores coded for each item from 0 (none or few) to 4 (a lot or all), with low bonding classified in a binary variable based on a score of under 50 (the bottom tercile).

Dependent variables. Self-assessed health: Global self-assessed health was assessed using the question from the General Social Survey: “In general, compared to other people your age, would you say your health is poor, fair, good, excellent?”

Depression: Level of depressive symptoms, as a general mental health indicator, was based on frequency and severity of symptoms reported using 6 depression and 3 related somatization items from the Brief Symptom Inventory short form (Derogatis and Spencer 1982). Symptoms were reported for the last seven days on a 5-point Likert-type scale. Possible scores on the scale ranged from 0 (no symptoms ever) to 45 (all symptoms, all the time), with the data ranges being 0 to 34. Depression symptomatology was then coded as a binary variable based on score > 15 for modeling (based on Derogatis’s 1993 recommendation). Overall depression rates for the overall sample (9%) and Latino subsample (11%) in our study are on track with national data which estimate that 9.1% (CI: 8.9–9.4) of the general population and 11.7% (CI: 10.8–12.7) of Latinos exhibit signs of depression (CDC 2010).

Control variables. Age: Age was operationalized as over versus under 35 years based on self-reported data.

Latino ethnicity: Latino ethnicity was operationalized as Latino or not, based on self-reported data.

Gender: Gender was operationalized as female or not, based on self-reported data.

Clinical obesity: Body mass index (BMI) above 30 was used to classify respondents as clinically obese (see Brewis [2011] for an extended discussion of the use of BMI and clinical definitions of obesity in anthropological studies).

Latino neighborhood: A high percentage Latino neighborhood was defined as a census tract with 50% Latino/Latina residents (based on the most recent census data). In this study, neighborhood was synonymous with census tract.
Low-income neighborhood: Living in a low-income neighborhood was defined as being a resident in a census tract with median household incomes below $35,000 (based on the most recent census data).

South Phoenix neighborhood: Residence in South Phoenix (or not) was based on self-reported data.

Life events: We included stressful life events as a control variable in the second model, given that they may have a profound impact on depression (Kendler et al. 1999; Kessler 1997). We used the widely applied Holmes and Rahe (1967) scale as a starting point for developing our own locally specific scale. We again used cognitive interviewing to identify items that were most salient for this specific community and added others suggested ethnographically as important (e.g., someone in the family or household was deported). The original Holmes and Rahe (1967) scale was criticized for including items that were too vague, were symptoms of early illness onset and omitted many key events (Kessler 1997). Our revision process was designed to address these potential flaws and generate a locally relevant measure of life event stressors; even so, we acknowledge that this scale does not present a fine-grained measure of life events. Our final scale was a 20-item inventory of major locally relevant stressful life events reported for the last 12 months. A score greater than 150 was used in the binary logistic regression models as a marker of “high stress events.”

Other Variables (used to generally characterize the sample). Perceived neighborhood amenities and disamenities in the neighborhood were assessed using respondent reports on scales taken from the 2001 Phoenix Area Social Survey, a longitudinal study monitoring social–ecological trends conducted as part of the Central-Arizona Phoenix Long-term Ecological Research (CAP-LTER) program. These items included questions about respondents’ satisfaction with a variety of neighborhood amenities (e.g., friendliness of neighbors, pleasant walkable streets, parks and common spaces, access to transportation), and assessments of the level of problems with listed lack of amenities in the person’s own neighborhood (e.g., air pollution, crime, graffiti, noise). Sense of neighborhood belonging was estimated on a 1–10 scale. As a measure of perceived neighborhood agency, respondents were also asked “How much of an impact do you think that you or people similar to you can have in making your neighborhood a better place to live?” on a 0–3 scale.

Statistical Analysis

Statistical analyses were conducted using IBM SPSS ver. 20, with alpha set at 0.05 (Madrigal 1998:79). To test for the effects of people’s perceived neighborhood stigma, bonding social capital, and other control variables on (1) physical health outcomes and (2) mental health outcomes, we employed generalized linear mixed modeling (GENLINMIXED procedure). The individual and neighborhood characteristics were fixed effects, and neighborhood tract was entered as the random effect to account for nesting of individuals within neighborhoods. Outcome measures were entered as high/low binary variables.
Table 2. Items and salience rank of free list responses in Phase 1, comparing South Phoenix and Scottsdale residents. Higher ranked items appear sooner on people’s lists and/or more often

<table>
<thead>
<tr>
<th>Describe your neighborhood</th>
<th>Smith’s Salience rank of free list item</th>
<th>Residents of South Phoenix (N = 45)</th>
<th>Residents of Scottsdale (N = 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quiet</td>
<td>Quiet</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Peaceful</td>
<td>Clean</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Good</td>
<td>Safe</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Nice</td>
<td>Friendly</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Calm</td>
<td>Nice</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Things you like about your neighborhood</th>
<th>Smith’s Salience rank of free list item</th>
<th>Residents of South Phoenix (N = 45)</th>
<th>Residents of Scottsdale (N = 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Quiet</td>
<td>Location</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>People</td>
<td>Parks</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>My house</td>
<td>Friendly</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Stores</td>
<td>Clean</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Cheap</td>
<td>Nice</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Things you dislike about your neighborhood</th>
<th>Smith’s Salience rank of free list item</th>
<th>Residents of South Phoenix (N = 45)</th>
<th>Residents of Scottsdale (N = 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gangs</td>
<td>Dirty</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Graffiti</td>
<td>Loud</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Dirty</td>
<td>Traffic</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Abandoned houses</td>
<td>Neighbors</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Crime</td>
<td>Expensive</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Describe the other neighborhood</th>
<th>Smith’s Salience rank of free list item</th>
<th>Residents of South Phoenix (N = 45)</th>
<th>Residents of Scottsdale (N = 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rich</td>
<td>Poor</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Clean</td>
<td>Dirty</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Expensive</td>
<td>Crime</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Safe</td>
<td>Low Income</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Upper class</td>
<td>Run down</td>
<td></td>
</tr>
</tbody>
</table>

Results

Free List Results (Phase 1)

As can be seen in Table 2, there was actually a high level of overlap between how people in South Phoenix and Scottsdale described their own neighborhoods. Based on a salience ranking of Phase 1 responses (whereby the items mentioned most often and higher on lists are ranked higher) (Smith 1993), in both areas residents tended toward very positive items denoting a pleasant and quiet place. However, when asked to describe the other neighborhood, the results show a marked difference. Whereas South Phoenix residents were likely to use positive attributes to describe Scottsdale, including clean and safe, all the salient items Scottsdale residents used to describe South Phoenix were negative—poor, dirty, and crime-ridden.

Survey Results (Phase 2)

The results of a preliminary descriptive analysis of the Phase 2 survey data are shown in Table 3. South Phoenix residents and those in other disadvantaged categories
Table 3. Descriptive analysis of the Phase 2 survey responses

<table>
<thead>
<tr>
<th>People’s Perceptions of Their Own Neighborhood</th>
<th>South Phoenix Resident</th>
<th>Lives in Low-income tract</th>
<th>Lives in 50% + Latino tract</th>
<th>Latino/a</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean sense of neighborhood belonging (1–10 scale)</td>
<td>6.29 (2.3)</td>
<td>6.0 (2.3)</td>
<td>5.82 (2.2)</td>
<td>6.24 (2.3)</td>
<td>6.2 (2.3)</td>
</tr>
<tr>
<td>Percentage who believe they can impact their neighborhood</td>
<td>65.7%</td>
<td>61.3%</td>
<td>58.5%</td>
<td>71%</td>
<td>65.7%</td>
</tr>
</tbody>
</table>

Mean level of satisfaction with neighborhood amenities (1–4 scale)

| Parks and common spaces | 2.3 (.98)** | 2.6 (.97)** | 2.25 (.89)** | 2.47 (1.0)** | 2.72 (1.0) |
| Pleasant walkable streets | 2.42 (1.0)** | 2.51 (1)** | 2.3 (.95)** | 2.53 (1.0)** | 2.75 (1.0) |
| Safety | 2.37 (1.0)** | 2.38 (1)** | 2.25 (1)** | 2.37 (.98)** | 2.65 (1.0) |

Mean level of specific problems in neighborhood (0–2 scale)

| ... Crime | 1.38 (.77)** | 1.28 (.78)** | 1.37 (1.05)** | 1.26 (1.12)** | 1.13 (.76) |
| ... Air Pollution | 1.21 (.713)** | 1.02 (.733) | 1.05 (.728) | 1.12 (.705)** | .99 (.730) |
| ... Lack of places to buy healthy food | 0.8 (.749) | .83 (.76)** | .97 (.782)** | .758 (.736) | .73 (.73) |

Mean neighborhood stigma score (15–60 scale)

| 35.5 (6.6)** | 33.8 (7.5)** | 36.1 (6.2)** | 33.4 (6.9)** | 31.5 |

(Continued)
Table 3. Continued

<table>
<thead>
<tr>
<th>South Phoenix Resident</th>
<th>Lives in Low-income tract</th>
<th>Lives in 50% + Latino tract</th>
<th>Latino/a</th>
<th>Total Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 65</td>
<td>N = 111</td>
<td>N = 63</td>
<td>N = 132</td>
<td>N = 300</td>
</tr>
<tr>
<td>Percentage agree: I feel embarrassed because of where I live</td>
<td>16.7%</td>
<td>18.9%</td>
<td>21.9%</td>
<td>16.1%</td>
</tr>
<tr>
<td>Percentage agree: People think less of me because I live in this neighborhood</td>
<td>36.4%</td>
<td>28.2%</td>
<td>37.5%</td>
<td>26.9%</td>
</tr>
<tr>
<td>Percentage agree: I have been discriminated against because I live in this neighborhood</td>
<td>27.8%</td>
<td>26.4%</td>
<td>34.3%</td>
<td>25.3%</td>
</tr>
<tr>
<td>Percentage agree: People have been treated badly because they live in this neighborhood</td>
<td>43.9%</td>
<td>28.2%</td>
<td>43.8%</td>
<td>30.2%</td>
</tr>
<tr>
<td><strong>Contextual and Compositional Factors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measured percentage in tracts with poor food access</td>
<td>7.9%</td>
<td>14.2%</td>
<td>10.3%</td>
<td>12.9%</td>
</tr>
<tr>
<td>Percentage in tracts defined as low walkability</td>
<td>33.3%</td>
<td>13.5%</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Mean neighborhood walkability score</td>
<td>17.46 (3.7)*</td>
<td>17.45 (4.0)**</td>
<td>18.43 (3.4)</td>
<td>18.86 (4.4)</td>
</tr>
<tr>
<td>Mean life events stress score</td>
<td>176.2 (126)*</td>
<td>147.9 (133)*</td>
<td>177.1 (146)*</td>
<td>149 (128)</td>
</tr>
<tr>
<td>Mean bonding capital score</td>
<td>60.48 (17.07)</td>
<td>56.24 (20.5)*</td>
<td>55.9 (18.4)*</td>
<td>57.31 (18.2)</td>
</tr>
<tr>
<td>Mean bridging capital score</td>
<td>15.5 (5)</td>
<td>15.1 (8.7)</td>
<td>15.3 (8.5)</td>
<td>14.43 (8.7)**</td>
</tr>
</tbody>
</table>

(Continued)
Table 3. Continued

<table>
<thead>
<tr>
<th>Health Relevant Variables</th>
<th>South Phoenix Resident N = 65</th>
<th>Lives in Low-income tract N = 111</th>
<th>Lives in 50% + Latino tract N = 63</th>
<th>Latino/a N = 132</th>
<th>Total Sample N = 300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean body mass index (BMI)</td>
<td>26.3 (4.2)</td>
<td>26.4 (4.4)</td>
<td>26.2 (4.9)</td>
<td>26.2 (4.8)</td>
<td>26.3 (4.8)</td>
</tr>
<tr>
<td>Mean # Exercise days/ week</td>
<td>2.7 (2.1)*</td>
<td>3.14 (2.1)</td>
<td>2.73 (2.0)*</td>
<td>3.05 (2.2)</td>
<td>3.6 (2.1)</td>
</tr>
<tr>
<td>Mean daily vegetable and fruit servings</td>
<td>2.26 (1.5)</td>
<td>2.21 (1.8)</td>
<td>2.07 (1.5)</td>
<td>2.12 (1.6)*</td>
<td>2.43 (1.8)</td>
</tr>
<tr>
<td>Percentage self-assessed health is good or excellent</td>
<td>68.7%</td>
<td>71.8%</td>
<td>68.7%</td>
<td>67.2%</td>
<td>75.2%</td>
</tr>
<tr>
<td>Mean depression score</td>
<td>7.88 (8.1)**</td>
<td>5.42 (5.4)</td>
<td>6.75 (6.4)</td>
<td>6.07 (6.7)</td>
<td>5.4 (6.2)</td>
</tr>
<tr>
<td>Percent with high depressive symptoms</td>
<td>15.2%</td>
<td>5.7%</td>
<td>12.7%</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>Mean perceived health risk (1–4 scale) from air pollution</td>
<td>2.4 (.986)*</td>
<td>2.27 (.962)</td>
<td>2.25 (.909)</td>
<td>2.12 (.966)</td>
<td>2.2 (.922)</td>
</tr>
<tr>
<td>... access to recreation areas</td>
<td>2.22 (1.01)</td>
<td>1.95 (.976)</td>
<td>2.23 (1.004)**</td>
<td>2.10 (1.066)**</td>
<td>1.9 (.995)</td>
</tr>
<tr>
<td>... poor access to supermarkets</td>
<td>2.07 (.99)</td>
<td>1.82 (.942)</td>
<td>1.98 (1)</td>
<td>1.82 (.916)</td>
<td>2.2 (.922)</td>
</tr>
</tbody>
</table>

*p < 0.05 and ** p < 0.005 for differences for means compared to all others (e.g., Latino versus all non-Latino)
Standard deviations are given in parentheses.
living elsewhere reported similar levels of “belonging” in their current neighbor- 
hoods ($p > 0.05$ based on comparison of means for people in the categories 
compared with all others). Those in South Phoenix, in low-income tracts, in high-
percentage Latino tracts, and who self-reported as Latino/Latina were statistically 
likely to give lower mean satisfaction scores for parks and common places, pleasant 
walkable streets, and safety in their neighborhoods. They were also more likely 
to perceive more crime, air pollution, and lack of places to purchase affordable, 
healthy food. Those living in South Phoenix (27.8%), in low-income tracts (26.4%), 
in Latino-predominant tracts (34.3%), and Latinos (25.3%) were more likely 
then the overall sample (4.4%) to report they had been discriminated against or been 
treated badly because they lived in their neighborhood. There was no difference 
in average social bonding scores for those living in South Phoenix or not, or for 
Latinos versus others, although the average score was significantly lower for those 
in a low-income tracts and majority Latino tracts.

Does living in South Phoenix help explain vulnerability to perceiving 
neighborhood stigma—even once such factors as income and ethnicity of 
neighborhood are taken into account?

To test for factors that predicted higher levels of perceived stigma as a continuous 
variable, including living in the highly stigmatized neighborhood of South Phoenix 
specifically, we used regression analysis. In the first run, we tested the effect of living 
in South Phoenix on the continuous variable of neighborhood stigma using multiple 
regression, including a number of likely covariates (being Latino, bonding score, 
census tract medium income, being under age 35, census tract percentage Latino, 
and gender). The initial model $R^2$ was .248, and when the living in South Phoenix 
variable was removed it was reduced to .219. Thus, given Beta (1–3.182/4.577), 
43% of additional variance in the model predicting perceived neighborhood stigma 
is explained by living particularly in South Phoenix. [In an initial analysis, not 
reported here, there was no interaction effect on perceived stigma levels between 
being Latino and census tract percentage Latino, so this was not considered further.]

Does perceived neighborhood stigma appear to have an independent or 
additive negative health effect, once other possible stigmas and contextual 
factors are taken into account? Do social bonds within the stigmatized 
neighborhood insulate residents from negative health effects, or do they 
worsen health?

To test for independent effects of variation in this perceived neighborhood stigma 
variable on health factors, once the effects of other possible stigmatizing and context-
tual factors were taken into account, we then developed two models, one predicting 
worse self-assessed health, and the other predicting more depressive symptomatology. The results of the analysis are shown in Table 4.

In Model 1, being in a high-percentage Latino or low-income neighbor-
hood or living in South Phoenix did not change the likelihood of having 
worse self-perceived health status. However, being Latino, low bonding capital, 
and high-perceived neighborhood stigma did, once all other covariates including
Table 4. Results of the generalized linear mixed models predicting categorical health outcomes. In the two-level model, individuals were nested in neighborhoods. Alpha is set at 0.05, and GENLINMIXED procedure was used in SPSS, ver 20. NS = not significant

<table>
<thead>
<tr>
<th>Outcome Variable</th>
<th>Individual and Neighborhood Factors</th>
<th>p</th>
<th>Coefficient Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-assessed health is fair or poor</td>
<td>Perceives high neighborhood stigma</td>
<td>0.004</td>
<td>1.346</td>
</tr>
<tr>
<td></td>
<td>Is &lt;30 years of age</td>
<td>0.005</td>
<td>−0.0956</td>
</tr>
<tr>
<td></td>
<td>Is Latino</td>
<td>0.048</td>
<td>0.671</td>
</tr>
<tr>
<td></td>
<td>Is female</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is obese</td>
<td>0.019</td>
<td>0.909</td>
</tr>
<tr>
<td></td>
<td>Low bonding capital</td>
<td>0.01</td>
<td>0.940</td>
</tr>
<tr>
<td></td>
<td>High percentage Latino neighborhood</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low-income neighborhood</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>South Phoenix neighborhood</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td><strong>Model 2</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High depression symptoms</td>
<td>Perceives high neighborhood stigma</td>
<td>0.000</td>
<td>1.854</td>
</tr>
<tr>
<td></td>
<td>High life events score</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is &gt;30 years of age</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is Latino</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is female</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is obese</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low-bonding capital</td>
<td>0.002</td>
<td>1.461</td>
</tr>
<tr>
<td></td>
<td>High percentage Latino neighborhood</td>
<td>NS</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Low-income neighborhood</td>
<td>0.023</td>
<td>1.149</td>
</tr>
<tr>
<td></td>
<td>South Phoenix neighborhood</td>
<td>NS</td>
<td></td>
</tr>
</tbody>
</table>

Obese status and age were taken into account. The model correctly classified 74.7% of the cases.

In Model 2, factors that significantly predicted greater risk of high depression scores were living in a low-income tract and low-bonding capital, once the other
factors were taken into account. Perceived neighborhood stigma increased the risk of reporting high depression scores significantly, once all other factors including life events and age were taken into account. The model correctly classified 92.3% of the cases.

Discussion

Our research was based on Phase 1 ethnographic interviews with 84 residents of South Phoenix (a stigmatized, predominately Latino neighborhood) and North Scottsdale (a wealthy, predominately Anglo neighborhood) and, in Phase 2, survey-based quantitative analysis with 300 respondents living in a range of neighborhoods across Phoenix. Our findings confirmed some well-established trends in the literature. First, we found empirical evidence that popular stigma—beyond the stigma commonly documented in Anglo-dominant news media—was directed toward South Phoenix as a place to live. South Phoenix residents perceived much higher levels of place-related stigmatization and discrimination (controlling for participant ethnicity, income, and social bonding capital score), even though their sense of belonging and agency in their neighborhoods was as high as people living elsewhere. Second, we found South Phoenix residents with higher social bonding were less likely to perceive neighborhood stigma and problems. Third, we anticipated that there could be an interaction between individual ethnicity and ethnic make-up of the immediate neighborhood (e.g., Latinos in high-percentage Latino neighborhoods might be less susceptible to stigma and perceive fewer neighborhood problems). However, we found this was not the case (analysis not shown).

When we examine the health outcomes analysis, we find that neighborhood stigma levels are seemingly implicated in both depression scores and self-assessed health ratings. The key theoretical contribution made by this finding is that these effects are evident even once other stigmatized neighborhood characteristics (i.e., ethnicity and poverty) are taken into account. This indicates that perceived neighborhood stigma does have an independent negative health effect, above and beyond other stigmas. Our findings suggest that the experience of living in a stigmatized neighborhood may be so stressful that it directly affects mental or physical health. Future studies might examine this proposition by controlling for additional factors that may affect both perceived stigma and depression. For example, a major limitation in interpreting our depression finding is that more depressed people may perceive more stigma, regardless of all other factors; for this reason, causal mechanisms remain unclear on the basis of this analysis. Our finding that higher levels of neighborhood stigma are associated with worse health ratings adds weight to our basic conclusion: neighborhood stigma in itself can predict worse health outcomes, in several domains, and likely through multiple pathways, and in a manner that is additive when considered in the context of other co-occurring social stigmas (such as those related to immigrant status and ethnicity).

Contrary to recent findings that social bonding in disadvantaged neighborhoods worsens individual health outcomes (e.g., Kawachi et al. 2008), our research indicates that people with high bonding social capital had better self-assessed health and lower depression scores. Our findings seem to indicate that bonding social capital can offset the negative effects of neighborhood stigma on individual physical and
emotional health outcomes. While the research we present here was not designed to investigate why this might be the case, our broader ethnographic understanding of South Phoenix does suggest some possibilities. When people in South Phoenix talked to us about social bonds in their neighborhood, they made statements such as:

It’s a good community. Everybody’s friendly. Some people aren’t, some people are. It’s a pretty good neighborhood. It’s a good environment . . . the neighborhood where we used to live at, people were kind of rude. They weren’t social—talkative people. (Paloma, Phoenix native, 5 years in South Phoenix)

I just know everybody around me. I know, like next door I know who’s behind me. If I moved somewhere else I won’t know anybody and I won’t want to know anybody because I just stick to myself. I don’t know, I just rather live down here.
(Renee, Phoenix native, 12 years in South Phoenix)

As these quotes demonstrate, we did not find that material assistance was a significant expectation of neighborly interactions in South Phoenix—particularly in the context of the economic crisis and severe economic hardships many families faced. We also noted that people did not typically tell us that their social relationships in South Phoenix were financially or emotionally burdensome. This is in contrast to other research (e.g., Kawachi et al. 2008), which has found that expectations of instrumental and affective support are so burdensome as to have a negative health impact among residents of impoverished neighborhoods. Our focus on a neighborhood that is multiply stigmatized—based on poverty, ethnicity, and immigration status—adds a new dimension to this literature. One of the most salient life stressors that people (especially Latinos) in South Phoenix discussed was stigmatizing public discourse around immigration and illegality. We suggest that some residents of South Phoenix were able to enjoy the positive health benefits of solidarity and buffering against outside stigma—without feeling significant economic obligations to neighbors. Future research is needed to confirm if the protective effect of social bonding against felt stigma related to one’s neighborhood is eroded in low-income urban immigrant settings where the burdens of maintaining those relationships are higher.

Conclusion

Given the complex and dynamic social geography of most urban areas, the effects of place-related stigma likely have a long and potent history in shaping the well-being of people in cities. However, the empirical evidence of this process has been limited. This study suggests that more detailed explorations of the independent and layered effects of neighborhood stigma with other stigmatized characteristics (such as with poverty and minority status) in shaping health, including as it relates to variation in the benefits and costs of higher or lower social bonding, may prove an important and fruitful direction for further enquiry into the critical contexts of health disparities in vulnerable communities. Further, it adds to a long history of research into the
contexts in which social bonding enhances or worsens individual health in the context of low-income neighborhoods. Our findings suggest that, absent neighbors’ expectation of significant material and emotional assistance, social bonding can offset the negative health impacts of neighborhood stigma and disadvantage.

Note

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Smith, J. J.  

Stack, C. B.  

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