Exploring Neighborhood Social Environment and Social Support in Baltimore

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Intervention efforts include social support as a mechanism to promote well-being in diverse communities. Cultivating support can be complex, particularly in disadvantaged urban communities. This complexity is compounded by a lack of studies that attempt to map associations between urban neighborhood environments and social support exchanges. Authors address this gap by analyzing data from the Healthy Aging in Neighborhoods of Diversity across the Life Span study (Wave 1, 2004–2009), a 20-year epidemiological investigation of African American and White adults living in Baltimore City. Results of ordinary least squares linear regression models ($N = 2{,}002$) indicate that individuals who report that their neighborhoods have more social resources ($p = .03$), social order ($p < .001$), social cohesion ($p = .002$), and social control ($p = .001$) tend to exchange more social support. Respondents in neighborhoods with more social disorder report providing more support ($p = .02$), but receive less ($p = .004$). Neighborhood social environment is more consistently associated with support received from friends or other kin compared with spouses and children. These findings suggest that neighborhood social environments may be a key contextual consideration for social work intervention efforts and indicate need for macro-level interventions to complement existing micro-level interventions.

KEY WORDS: *neighborhoods; social support; urban communities*

Social support is a known predictor of well-being across the life course (Cohen, 2004; Ertel, Glymour, & Berkman, 2009; Uchino, 2004). Prior empirical work has linked social support to better mental health, quality of life, and longevity (Andrew, 2006; Borglin, Jakobsson, Edberg, & Hallberg, 2006; Krause, 1997). Because of these patterns, promoting social support remains a key goal for interdisciplinary interventions in social work, sociology, public health, and gerontology that are aimed at enhancing community well-being across a range of populations.

Yet, promoting social support is not a simple process. Not only do support exchanges vary by a range of individual factors (for example, cultural expectations, personality, family structure) (Thoits, 1995), social support availability is also likely shaped by a myriad of characteristics in an individual's local community (Braveman, Egerter, & Williams, 2011). A remaining challenge of research on social support promotion is a lack of clarity on the pathways that connect community characteristics to individual social support exchanges. These pathways are particularly unclear in disadvantaged, urban environments in which high levels of inequity, socioeconomic diversity, and variation in residential conditions (Pridmore, Thomas, Havemann, Sapag, & Wood, 2007; White & Guest, 2003) create a distinct need for social support but also numerous barriers to support.

For example, disadvantaged neighborhoods are hypothesized to discourage social support through fear of crime and lack of community resources (Morenoff, Sampson, & Raudenbush, 2001), yet enhanced social support may also emerge in areas with heightened need (Sampson, Morenoff, & Earls, 1999). Furthermore, conceptual models of neighborhoods and health typically do not account for who is providing social support (that is, source of social support), but support from friends and neighbors may be more common in urban than in rural areas (Mair & Thivierge-Rikard, 2010; Tendulkar, Koenen, Dunn, Buka, & Subramanian, 2012; York Cornwell & Behler, 2015).

For these reasons, this article seeks to inform efforts to identify potential barriers and facilitators for social support interventions by clarifying pathways between neighborhood environment and social support. To do so, we analyzed a sample from Baltimore,

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one of multiple cities in the United States that has experienced economic upheaval, deteriorating infrastructure, racial segregation, and unequal distribution of resources. We mapped associations between multiple components of Baltimore's neighborhood social environments and social support exchanges among a sample of African American and White respondents ages 30 years to 64 years ($N = 2{,}002$).

URBAN NEIGHBORHOODS, HEALTH, AND SUPPORT

Neighborhoods with a high concentration of poverty are typically characterized by physical and social deprivation, including crime and violence, vacant housing, deteriorating or poorly maintained infrastructure, limited access to amenities and services, and a lack of social cohesion and control (Mujahid, Diez Roux, Morenoff, & Raghunathan, 2007). These neighborhood problems create strain and exacerbate stress (Israel et al., 2006), which is one of the major pathways theorized to harm health, thus resulting in unhealthy behaviors (Echeverría, Diez-Roux, Shea, Borrell, & Jackson, 2008), lower quality of life (Yen, Yelin, Katz, Eisner, & Blanc, 2006), depression, functional decline (Balfour & Kaplan, 2002), and cognitive impairments (Lee, Glass, James, Bandeen-Roche, & Schwartz, 2011).

Social support has the potential to buffer stress-related health risk (Cohen & Wills, 1985; Thoits, 1995; Uchino, 2006) and may be particularly effective in urban neighborhoods (Berkman, Glass, Brissette, & Seeman, 2000; Carpiano, 2006; Kawachi & Berkman, 2003; Mair, Diez Roux, & Morenoff, 2010; Pridmore et al., 2007). The majority of previous work has focused on social support receipt. Both receiving social support and even perceiving that support is available, if needed, are linked to better health outcomes across the life course (Cohen & Wills, 1985). A smaller body of literature has examined social support provided to others. Although giving high levels of support to others may create strain (for example, "cost of caring"; Christakis & Allison, 2006), a moderate amount of support provided could promote feelings of autonomy, self-efficacy, and self-esteem (W. M. Brown, Consedine, & Magai, 2005; B. Brown, Perkins, & Brown, 2003; Krause, 2001), which may be particularly important for residents of disadvantaged urban environments like Baltimore. Yet, the literature on social support variation by urban neighborhood characteristics is still limited.

CONCEPTUALIZATION OF NEIGHBORHOOD SOCIAL ENVIRONMENTS AND SOCIAL SUPPORT

Previous work on the formation of social environments in urban neighborhoods has focused on mechanisms, such as *social capital*, which is the presence of social ties that have the potential to yield emotional or instrumental resources through direct support or information sharing (Carpiano, 2006; Lin & Langen, 2001; Portes, 1998; Sampson et al., 1999). At the neighborhood level, social capital may foster social interaction and social integration, yielding resources such as cohesion and trust that can promote social exchange (Sampson et al., 1999). Resource-rich neighborhoods are also more likely to contain safe, orderly spaces and activities that promote interaction, such as parks, playgrounds, and organizations (Sampson et al., 1999).

Despite a wealth of research devoted to conceptualizing and measuring neighborhood social environments and neighborhood-level social capital resources, individual-level exchanges of social support are largely undertheorized in neighborhoods research. Although scholars agree that neighborhood environments influence individuals and their capacity to socialize (York Cornwell & Behler, 2015), conceptual models are unclear about the pathways that connect neighborhood environments to social support. On the one hand, those who live in neighborhoods with high levels of social order and social control typically also experience less crime and disorder, which may lead to a lower fear of crime and an increased propensity to interact and provide support. Those with more social cohesion in their community are also more likely to share norms, values, and trust with one another, which could facilitate instrumental and emotional support (Carpiano, 2006; Sampson et al., 1999). Desirable neighborhood conditions are also theorized to promote supportive ties from outside the neighborhood by increasing others' willingness to travel into the neighborhood (York Cornwell & Behler, 2015). On the other hand, scholars have hypothesized that social support may emerge in neighborhoods with high need as a strategy to address socioeconomic disadvantage (Sampson et al., 1999). In addition, it is possible that high levels of informal social control could reduce social support in some communities by creating an environment in which individuals feel highly monitored and hesitant to interact in public

spaces. Because of these various potential pathways, questions remain regarding the ways neighborhood social environments may shape support exchanges.

SOCIAL ENVIRONMENT AND SOCIAL SUPPORT IN URBAN NEIGHBORHOODS

Similar to the conceptual literature, empirical research has yielded mixed results about the connections between neighborhood environment and social support in urban areas. Studies of the direct linkages between neighborhood environment and personal exchanges of social support are rare or are limited to at-risk groups, such as adolescents (Lenzi, Vieno, Santinello, & Perkins, 2013), older adults, or public housing residents (Schieman, 2005). Using an index of neighborhood social disadvantage derived from U.S. Census data with a sample of older adults, Schieman (2005) found that greater neighborhood disadvantage is associated with more support donated and received but only among African American women. Also focusing on older adults, York Cornwell and Behler (2015) found that neighborhoods with high residential instability and high social disorder were associated with smaller networks, fewer ties, and less frequent interactions, particularly among men and regardless of whether social ties resided in the respondent's neighborhood. Unlike Schieman (2005), York Cornwell and Behler (2015) did not find evidence that neighborhood disadvantage is associated with increased support. Tendulkar et al. (2012) analyzed a sample of parents from Chicago and found that, although neighborhood social environment was not associated with levels of support, those living in neighborhoods with greater informal social control perceived more support from friends.

Taken together, these three examples demonstrate the need for greater clarity about the empirical relationships between multiple components of the neighborhood social environment and exchanges. In a city such as Baltimore, with a history of racial and socioeconomic segregation and vast disparities in health and longevity by neighborhoods, it is unclear how each component of the neighborhood social environment (for example, resources, order, cohesion, control) may promote or inhibit social support exchanges.

SOURCES OF SUPPORT IN URBAN ENVIRONMENTS

Another conceptual and empirical consideration—source of support (for example, spouse, child, friends, or other kin)—shapes support exchanges and may be a particularly salient factor to explore in the context of urban environments because of how social networks differ in urban areas. The community transformed perspective suggests urban areas yield networks that are less familial and less dense. Urbanization also increases the formation of supportive nonkin ties that tend to be more voluntary in nature (White & Guest, 2003) and based on similar characteristics, such as lifestyles and common values (Birditt, Jackey, & Antonucci, 2009; Chen & Fu, 2008). These patterns are more common among younger adult and middle-age adult populations than in older adult populations. Friendships often involve higher levels of reciprocity (DuPertuis, Aldwin, & Bossé, 2001) yet require more effort to maintain (Roberts & Dunbar, 2011) and may be more susceptible to neighborhood context. For these reasons, neighborhood environment may be more clearly associated with support from friends than support from family.

However, to our knowledge, no previous study has examined the extent to which components of the neighborhood social environment are associated with social support from different sources. Because of Baltimore's history of urbanization; de-urbanization; gentrification; and heterogeneity in age, race, and socioeconomic status, it is important to consider sources of support when mapping predictors of support and when planning for future intervention options.

RESEARCH AIM AND QUESTIONS

Our study aimed to document associations between the neighborhood social environment and social support among a socioeconomically diverse sample of African American and White adults (ages 30 to 64) residing in Baltimore. We explored two research questions: (1) Are characteristics of the neighborhood social environment (access to resources, disorder, social cohesion, and social control) associated with the amount of social support that individuals give and receive? (2) Are characteristics of the social environment associated with support received from different sources, specifically spouses, children, or friends or other kin? Although our data were collected from one urban location, this sample provided an opportunity to

explore the relationship between neighborhood environments and social support in one of many cities in the United States that currently is experiencing disinvestment, gentrification, segregation, and economic deprivation.

METHOD

Data

We explored these questions using data from the baseline wave (2004–2009) of the Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS) study, a 20-year epidemiological investigation of African American and White adults living in Baltimore performed by the National Institute on Aging's Intramural Research Program. HANDLS used probability sampling drawn from U.S. Census tracts to identify city residents ranging in age, sex, race, and poverty status from 13 neighborhoods in Baltimore (Evans et al., 2010). The baseline data collection consisted of two phases. Phase I was an in-home interview with questionnaires about health status, health service use, psychological distress, nutrition, neighborhood characteristics, and demographics. Phase II used mobile medical research vehicles to conduct medical histories and assessment of biomedical risk factors. Of the respondents ($N = 2{,}706$) included in both phases of the initial survey, 2,258 received the social support module. After listwise deletion for missing data, the result was a final analytic sample of 2,002 Baltimore residents ages 30 to 64.

Measures

Social Support. HANDLS included two scales of social support from the MacArthur Studies of Successful Aging (Seeman, Lusignolo, Albert, & Berkman, 2001): provided and received. Social support provided was measured with a 13-item scale that assesses how often (0 = never, 1 = once in a while, 2 = fairly often, or 3 = very often) the respondent gave support to others (Seeman et al., 2001). Support items comprised emotional (for example, talking over problems and feelings, being present with someone when they experienced a stressful situation, providing comfort with physical affection, suggesting action to deal with a problem) and instrumental tasks (for example, performing household chores, giving financial help, providing transportation, giving nonmonetary physical help). Respondents received an average score for emotional support (0 to 3; Cronbach's alpha = 0.81) and instrumental support (0 to 3; Cronbach's alpha = 0.72), which we summed to create an overall score for social support provided to others ranging from 0 to 6.

Social support received assessed support received overall and by source of support (Seeman et al., 2001). Respondents were asked how often (0 = never, 1 = once in a while, 2 = fairly often, or 3 = very often) they received support from three sources: their spouse or partner, child, and close friends or other relatives. Support received items included emotional (for example, how often each source makes the respondent feel loved and cared for and listens when they talk about their worries or problems) and instrumental tasks (for example, how often each source gave the respondent help with daily tasks and advice/information). Because survey items about partners, children, and friends or other kin were asked only of respondents who had that tie present, we calculated scores on support received in two different ways for comparison. The first method counted those without the tie source as "0" on that form of support received (for example, unmarried, childless, without friends or other kin received a score of "0" from that source), then all three sources were averaged to calculate an overall score of emotional (0 to 3; Cronbach's alpha = 0.70) and instrumental (0 to 3; Cronbach's alpha = 0.62) support received from all sources, which was summed to yield an overall support received score of 0 to 6. The second method marked individuals who lacked a particular tie as missing on that source of support (for example, unmarried, childless, without friends or other kin are missing from calculations about that source). This approach resulted in different and smaller sample sizes by source of support and therefore was used only in models that analyzed support received by source and for comparison.

Neighborhood Social Environment. Neighborhood social environment was assessed with four scales (social resources, social order, social cohesion, and social control) based on each respondent's subjective rating of their neighborhood and derived from the Project on Human Development in Chicago Neighborhoods (Raudenbush & Sampson, 1999). Each item asked the respondent to reflect on their "neighborhood" without specifying the geographic area to allow respondents to provide their own assessments.

Neighborhood social resources examined amenities present in the respondent's neighborhood. Each respondent was asked whether their neighborhood has a park or playground, community newspaper, crime prevention program, and stores/businesses within walking distance (0 = no, 1 = yes), with items summed to create a count of resources ranging from 0 to 4.

Neighborhood social order was assessed by reverse coding a scale of neighborhood disorder to be consistent with the other neighborhood social environment measures for which higher scores indicated more optimal conditions. Respondents were asked how common it is to see graffiti, litter, abandoned cars, drug dealers, unemployed adults loitering, gang activity, misbehaving children, prostitution, abandoned buildings, broken windows, serious crime, and houses not kept up in their neighborhood (0 = very common, 1 = rare, 2 = neither, 3 = rare, and 4 = very rare). These 12 items were averaged for each respondent, yielding a score ranging from 0 to 4 (Cronbach's alpha = 0.92), with higher values indicating less disorder.

Neighborhood social cohesion asked respondents how strongly they agreed that their neighborhood is close-knit, neighbors help one another, people can be trusted, people get along with each other, and people share the same values (0 = strongly disagree, 1 = disagree, 2 = neither agree/disagree, 3 = agree, and 4 = strongly agree). These five items were averaged, yielding a score ranging from 0 to 4 (Cronbach's alpha = 0.83).

For neighborhood social control, respondents were asked how likely their neighbors would take action if children skipped school, children spray painted, children disrespected adults, there were a fight in front of their house, and the fire station budget were cut (0 = very unlikely, 1 = unlikely, 2 = neither likely/unlikely, 3 = likely, and 4 = very likely). Similar to the other scales, these five items were averaged to create a score for each respondent that ranges from 0 to 4 (Cronbach's alpha = 0.87).

Covariates

Control variables included African American race (compared with White race), female sex, whether respondents lived in poverty (below 125 percent poverty level, which was recommended instead of income in this sample because of sampling strategy and data accuracy), age (in years), married/partnered, number of children, high school graduate, full-time employed, self-rated health (0–4, higher values indicate better health), and depressive symptoms (Center for Epidemiological Studies–Depression Scale, 20 items) (Radloff, 1977).

Analysis

We examined descriptive statistics of all measures in the analysis to document characteristics of the sample (see Table 1) and bivariate correlations between characteristics of the neighborhood social environment and social support to explore unadjusted relationships between variables (see Table 2). Next, we conducted ordinary least squares (OLS) linear regression predicting support provided (see Table 3) and received (see Table 4). Because our four measures of neighborhood were highly correlated, only one measure could be included in the model at a time. This approach allowed us to avoid multicollinearity and identify in our analyses which specific aspects of environment were associated with support but did not allow for the comparison of social environment characteristics. We explored associations between neighborhood and source of support by examining each of the four neighborhood characteristics as a predictor of support received from each source. This yielded seven OLS linear regression models. These results are condensed in Table 5 with each cell representing a separate model, each of which is adjusted for all covariates.

RESULTS

Descriptive

Respondents, on average, scored 3.16 on social support provided and 2.82 on social support received out of a total possible score of 6 (see Table 1). When examining source of support, respondents reported receiving more support from friends or other kin compared with their children or partner, perhaps because those without a partner or child received a score of zero for that source. In terms of neighborhood social environment, respondents reported an average of 2.58 on resources, 2.22 on order, 2.20 on cohesion, and 2.56 on control (with a maximum score of 4).

The analytic sample was 59 percent African American, 57 percent female, and 42 percent in poverty, and 48 years old on average. More than half of the sample was married or partnered, and respondents reported having an average of 2.17

Table 1: Descriptive Statistics of All Variables ($N = 2,002$)

Variable	*M*	%	*SD*	Minimum	Maximum
Social support					
Provided	3.16		1.10	0	6
Received	2.82		1.31	0	6
From partner	2.48		2.45	0	6
From children	2.69		2.01	0	6
From friends/kin	3.28		1.44	0	6
Neighborhood					
Social resources	2.58		1.14	0	4
Social order	2.22		1.10	0	4
Social cohesion	2.20		0.79	0	4
Social control	2.56		1.04	0	4
Covariates					
African American		59	—	0	1
Female		57	—	0	1
In poverty		42	—	0	1
Age	48.00		9.17	30	64
Married/partnered		57	—	0	1
Number of children	2.17		1.87	0	10
Has high school degree		76	—	0	1
Employed full-time		57	—	0	1
Self-rated health	2.13		0.98	0	4
Depressive symptoms	14.66		11.19	0	59

Table 2: Correlations between Neighborhood and Social Support ($N = 2,002$)

	Neighborhood			
Dependent Variable	Social Resources	Social Order	Social Cohesion	Social Control
Social support				
Provided	.038	−.016	.009	.066**
Received	.086***	.113***	.115***	.130***
From partner	.066**	.054*	.059**	.039
From children	.021	.071**	.042	.075***
From friends/kin	.083***	.132***	.203***	.160***

*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

children. A majority of the sample had at least a high school diploma (76 percent) and was employed full-time (57 percent). Average self-rated health was approximately 2 out of 4. Respondents reported about 15 depressive symptoms, which approached the standard threshold (16 or greater), thus indicating high depressive symptoms (Radloff, 1977).

Bivariate

Neighborhood characteristics were not strongly correlated with social support provided (see Table 2). Only social control had a statistically significant bivariate association with support provided, but the correlation was weak ($R = 0.07$). All of the neighborhood scales were significantly but weakly associated with support received (ranging from $R = 0.09$ to $R = 0.13$). In terms of support by source, greater social resources, order, and cohesion were correlated with slightly more support from partners ($R = 0.05$ to $R = 0.07$), whereas order and control had weak correlations with support from children ($R = 0.07$ to $R = 0.08$). All neighborhood characteristics were correlated with support from friends or other kin, and these correlations were slightly stronger ($R = 0.08$ to $R = 0.20$).

Table 3: Multivariable Regression Predicting Social Support Provided ($N = 2{,}002$)

Social Support Provided				
Intercept	2.988*** (.202)	3.169*** (.201)	3.070*** (.198)	2.969*** (.194)
Neighborhood				
Social resources	.045* (.016)			
Social order		−.042* (.016)		
Social cohesion			.012 (.035)	
Social control				.063* (.027)
Covariates				
African American	.392*** (.037)	.391*** (.032)	.383*** (.033)	.379*** (.032)
Female	.283*** (.043)	.282*** (.043)	.281*** (.044)	.280*** (.043)
In poverty	.018 (.047)	.004 (.048)	.018 (.048)	.024 (.044)
Age	−.020*** (.003)	−.019*** (.003)	−.020*** (.003)	−.020*** (.003)
Married/partnered	.157** (.036)	.161** (.038)	.162*** (.037)	.162*** (.036)
Number of children	.080*** (.014)	.079*** (.014)	.080*** (.014)	.079*** (.014)
High school degree	.141* (.054)	.151* (.054)	.147* (.053)	.146* (.055)
Employed full-time	.161* (.053)	.162* (.054)	.158* (.053)	.157** (.051)
Self-rated health	.061* (.024)	.070* (.025)	.065* (.024)	.058* (.026)
Depressive symptoms	.001 (.002)	.000 (.002)	.001 (.002)	.001 (.001)
R^2	.12	.12	.12	.12

Note: Standard errors are in parentheses.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Multivariate

In multivariate models, higher levels of neighborhood resources ($B = 0.05$, $p = .02$) and neighborhood social control ($B = 0.06$, $p = .04$) were each statistically significantly associated with greater social support provided net of all covariates (see Table 3). Respondents who reported greater order in their neighborhood also provided less support to others ($B = -.04$, $p = .02$). Across all models, respondents who were African American and female provided more support compared with White respondents and men. Respondents who were younger, married or partnered, had more children, were high school educated, were employed full-time, and reported better self-rated health provided greater amounts of support to others.

Each neighborhood characteristic was statistically significantly associated with greater social support received (see Table 4). Respondents who reported more resources in their neighborhood ($B = 0.05$, $p = .03$) as well as greater social order ($B = 0.07$, $p < .001$), cohesion ($B = 0.11$, $p = .002$), and control ($B = 0.11$, $p = .001$) received more support from others net of all covariates. Respondents who were African American, female, married or partnered, had more children, reported greater self-rated health, and had less depression all reported receiving more support from others.

Table 5 provides a summary of multiple models with each cell representing a separate regression model. The first set of models (left) used the first method of calculating support received with those who lacked a tie scoring a "0" on support from that tie. Greater neighborhood social order ($B = 0.07$, $p = .01$) and cohesion ($B = 0.08$, $p = .01$) were associated with more support from partners, whereas more neighborhood resources ($B = 0.07$, $p = .05$) and greater social control ($B = 0.1$, $p = .04$) were associated with more support from children. All neighborhood characteristics were statistically significantly associated with greater support from friends or other kin. Specifically, neighborhood social resources ($B = 0.09$, $p = .02$), higher social order ($B = 0.07$, $p = .03$), social cohesion ($B = 0.23$, $p < .001$), and social control ($B = 0.19$, $p < .001$) predicted more support received from friends and other kin. The second set of models (right) used the second form of calculation for support received (those who lacked a tie were marked as missing on support from that tie) and had smaller sample sizes. These models revealed a similar pattern with the exception of neighborhood social order, which was now associated with support from children and was no longer associated with support from friends or other kin.

Table 4: Multivariable Regression Predicting Social Support Received ($N = 2,002$)

Social Support Received								
Intercept	1.723***	(.205)	1.714***	(.196)	1.629***	(.196)	1.625***	(.212)
Neighborhood								
Social resources	.051*	(.020)						
Social order			.069***	(.014)				
Social cohesion					.114**	(.029)		
Social control							.109***	(.025)
Covariates								
African American	.270***	(.060)	.245***	(.055)	.262***	(.057)	.254***	(.055)
Female	.265***	(.032)	.260***	(.032)	.261***	(.032)	0.260***	(.034)
In poverty	−.075	(.065)	−.058	(.060)	−.059	(.060)	−.062	(.058)
Age	−.006	(.003)	−.006	(.003)	−.007	(.003)	−.007	(.003)
Married/partnered	1.437***	(.071)	1.443***	(.069)	1.446***	(.070)	1.444***	(.068)
Number of children	.171***	(.011)	.171***	(.011)	.171***	(.012)	.169***	(.011)
High school degree	−.017	(.052)	−.012	(.052)	−.021	(.052)	−.012	(.054)
Employed full-time	.003	(.047)	−.007	(.046)	−.006	(.044)	−.002	(.046)
Self-rated health	.071***	(.016)	.071***	(.016)	.069**	(.017)	.063**	(.019)
Depressive symptoms	−.025***	(.002)	−.024***	(.002)	−.024***	(.001)	−.024***	(.001)
R^2	.47		.47		.47		.48	

Note: Standard errors are in parentheses.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

DISCUSSION

To address the conflicting and limited conceptual and empirical literature on the relationship between neighborhoods and social support, our study examined associations between multiple aspects of the social environment and social support exchanges among urban-dwelling adults in Baltimore. Our exploratory cross-sectional study suggests three potential pathways through which the neighborhood environment may be related to personal exchanges of support while also indicating additional lines of inquiry for future research. First, higher levels of neighborhood social resources and control, and lower levels of order, are associated with more support provided. Second, more optimal neighborhood social environments are linked to more social support received. In addition, neighborhood social environment appears to influence support received from friends or other kin more consistently than support received from spouses or children.

Resources, Control, and Disorder May Promote Support Provision

Consistent with some of the literature on neighborhood social environments, respondents who reported more resources and greater social control in their neighborhoods also provided more support to others, yet there was no association between social cohesion and support provided. Furthermore, a more unique pattern emerged wherein higher levels of perceived neighborhood disorder were associated with greater amounts of support provided to others. These results provide partial support for Schieman's (2005) conclusion that those in disadvantaged neighborhoods may mobilize to provide support to others. It is possible that neighborhoods with clearer signs of disorder or individuals who perceive more disorder also seek to develop greater social control as a way to combat disorder, which then fosters more community support to those in need. In addition, neighborhoods with higher disorder may also be more socioeconomically deprived areas wherein residents are excluded from other sources of formal and informal support and provide more support to each other to fill this gap. The role of the socioeconomic environment in these pathways, particularly as a potential mediator or moderator of the relationship between the social environment and social support provided, should be examined in future research.

More Support Is Received in Socially Advantaged Neighborhoods

In our sample, individuals who believed their neighborhood had more resources, less disorder, more social cohesion, and more social control also

Table 5: Summary of Multivariable Regression Associations between Neighborhood and Social Support Received by Source

	Social Support Received					
	(Absence of Tie = 0)			(Absence of Tie = Missing)		
Variable	From Partner (N = 2,002)	From Children (N = 2,002)	From Friends/Kin (N = 2,002)	From Partner (N = 1,149)	From Children (N = 1,517)	From Friends/Kin (N = 1,916)
Social resources	−.003 (.029)	.070* (.032)	.087* (.033)	.015 (.051)	.095** (.024)	.088* (.033)
Social order	.067* (.023)	.070 (.034)	.071* (.029)	.099* (.037)	.088** (.028)	.032 (.030)
Social cohesion	.084* (.029)	.024 (.059)	.235** (.039)	.131* (.053)	.024 (.059)	0.186** (.044)
Social control	.039 (.024)	.103* (.045)	.185*** (.036)	.055 (.040)	.168* (.056)	0.148** (.046)

Notes: Each cell represents a separate model. Only one neighborhood measure is included in a model at a time. Standard errors are in parentheses. All models control for race, gender, poverty, and covariates.
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

reported that they received more support from others. Building on York Cornwell and Behler's (2015) study, our finding provides additional empirical evidence that resource-rich neighborhoods are more likely to create environments that encourage support from network members. This finding underscores patterns of accumulating neighborhood disadvantage wherein individuals residing in neighborhoods with fewer resources, a weaker sense of community, more signs of disorder, and a lower ability to promote order are also less likely to receive support from their networks. Social order and social control have a particularly strong association with more support received. Perhaps, as Tendulkar et al. (2012) found, neighborhood social environment is primarily influencing residents' perceptions of support. People may perceive more support in an environment that is orderly and safe compared with environments that feel dangerous and at higher risk for victimization.

Perceptions of support may also shape the somewhat puzzling finding that residents of neighborhoods with higher disorder reported providing more social support yet received less support. Although this finding may be an artifact of the different scales used to measure support provided and received, it may also reflect individuals' perceptions of support given and received through a relative deprivation lens (Diez Roux, 2001). For example, in disadvantaged conditions, assessing your situation as better than those around you—perhaps through seeing yourself as someone who gives more help than they receive—may function as a coping strategy that promotes resiliency. These findings indicate critical areas for future research, including the differences between perceived and more objective measures of social support exchanges as well as the relationship between support provided and support received.

Support from Friends or Other Kin May Be Particularly Linked to Neighborhood

When looking at support by source, one potential pattern emerged from these exploratory results: Support from friends and other kin is most consistently associated with neighborhood measures. This pattern is reasonable considering the overrepresentation of friend ties in urban social networks (White & Guest, 2003). Although partners and children may provide support when it is needed, regardless of other factors (Pavalko & Wolfe, 2016), friend ties and other kin tend to be less obligatory and may be more influenced by local neighborhood environmental conditions. This finding suggests that intervention efforts aimed at promoting social support in dense, urban environments may be more likely to succeed if they focus on ties besides spouses and children, such as friends. It is unclear if positive neighborhood social environments promote social support from ties, such as friends from within the community, or if these neighborhoods are more likely to attract visitors from outside of the neighborhood, such as friends or extended kin. Future research should continue to investigate sources of social support and the mechanisms through which these sources may vary by neighborhood conditions.

LIMITATIONS

This study contains limitations that should be addressed in future studies. First, our cross-sectional data did not allow causal conclusions regarding associations between social environments and social support. Furthermore, data collection (2004–2009) occurred during the Great Recession and may have affected respondents' financial resources, but our data did not allow us to adjust for this economic transition.

Second, because each component of the neighborhood social environment is highly correlated, we included only one component at a time, when, in reality, these characteristics operate together and may produce compounding or counteractive effects. For example, neighborhood social environment was confounded with age and socioeconomic status, which may explain why we did not always see bivariate associations with support but did see an association emerge in multivariate analysis after these factors were parsed out via covariates.

Third, our summary measures of social support were limited. The scale for total social support received, for example, had a lower than preferred alpha (for example, 0.62), penalized people who were unmarried or without children, and counted friend and other kin support with equal weight as spousal and child support. Although unmarried and childless individuals are at risk for lower support, those who lack a partner or children may rely on friends and other relatives more intensely, particularly in urban environments in which friend ties are more dominant (Mair, 2019).

Fourth, our measures were based on respondents' perceptions of their neighborhoods and support, which may not match more objective mapping of their local environment (for example, actual number of broken windows). A more nuanced examination of differences by sex, racial–ethnic subgroups, age and cohorts, income, and education level is beyond the scope of this article but should be examined in future studies because perceptions and patterns of neighborhoods and support vary by these factors and may yield different implications for specific at-risk groups.

CONCLUSION

Given the gaps in the literature, results from this study advance our understanding of the mechanisms by which the social environment may promote or hinder social support exchanges. These findings have implications for social work practice and research. For example, our findings support previous work documenting place-based inequities whereby those living in more optimal social environments also receive more supports from their networks. However, higher levels of support provided in neighborhoods with more social disorder point to the potential for social ties to counteract neighborhood disadvantage.

Currently, interventions aimed at addressing disparities in social support tend to target change at the individual level and neglect opportunities for neighborhood-level efforts to promote support exchange (Duke, Skay, Pettingell, & Borowsky, 2009; Pavalko & Wolfe, 2016). The potential efficacy of micro-level interventions could be enhanced by macro-level interventions that, for example, aim to reduce neighborhood disorder (for example, collaborative community policing), create more public and private amenities that promote social interaction (for example, community gardens), and empower residents to both give and receive services to each other (for example, time-banking initiatives). Indeed, our finding that the neighborhood social environment may be particularly facilitative of support received from friends and other relatives suggests that interventions to increase social support may find more success by fostering neighborhood resources, cohesion, control, and order. In light of strong empirical evidence regarding the influence of social support on a wide array of well-being outcomes, future research should build on the findings of our study to inform the development and implementation of social work interventions, particularly within disadvantaged urban neighborhood communities. SWR

REFERENCES

Andrew, M. K. (2006). Social capital, health, and care home residence among older adults: A secondary analysis of the Health Survey for England 2000. *European Journal of Ageing, 2*, 137–148.

Balfour, J. L., & Kaplan, G. A. (2002). Neighborhood environment and loss of physical function in older adults: Evidence from the Alameda County Study. *American Journal of Epidemiology, 155*, 507–515.

Berkman, L. F., Glass, T., Brissette, I., & Seeman, T. E. (2000). From social integration to health: Durkheim in the new millennium. *Social Science & Medicine, 51*, 843–857. doi:10.1016/S0277-9536(00)00065-4

Birditt, K. S., Jackey, L.M.H., & Antonucci, T. C. (2009). Longitudinal patterns of negative relationship quality across adulthood. *Journals of Gerontology: Series B, 64*, 55–64. doi:geronb/gbn031

Borglin, G., Jakobsson, U., Edberg, A.-K., & Hallberg, I. R. (2006). Older people in Sweden with various

degrees of present quality of life: Their health, social support, everyday activities and sense of coherence. *Health and Social Care in the Community, 14*, 136–146.
Braveman, P., Egerter, S., & Williams, D. R. (2011). The social determinants of health: Coming of age. *Annual Review of Public Health, 32*, 381–398. doi:10.1146/annurev-publhealth-031210-101218
Brown. B., Perkins, D. D., & Brown, G. (2003). Place attachment in a revitalizing neighborhood: Individual and block levels of analysis. *Journal of Environmental Psychology, 23*(3), 259–271. doi:10.1016/S0272-4944(02)00117-2
Brown, W. M., Consedine, N. S., & Magai, C. (2005). Altruism relates to health in an ethnically diverse sample of older adults. *Journals of Gerontology: Series B, 60*, 143–152. doi:10.1093/geronb/60.3.P143
Carpiano, R. M. (2006). Toward a neighborhood resource-based theory of social capital for health: Can Bourdieu and sociology help? *Social Science & Medicine, 62*(1), 165–175. doi:10.1016/j.socscimed.2005.05.020
Chen, S.-Y., & Fu, Y.-C. (2008). Leisure participation and enjoyment among the elderly: Individual characteristics and sociability. *Educational Gerontology, 34*, 871–889. doi:10.1080/03601270802115382
Christakis, N. A., & Allison, P. D. (2006). Mortality after the hospitalization of a spouse. *New England Journal of Medicine, 354*(20), 2190–2191. doi:10.1056/NEJMc060777
Cohen, S. (2004). Social relationships and health. *American Psychologist, 59*, 676–684. doi:10.1037/0003-066X.59.8.676
Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin, 98*(2), 310–357. doi:10.1037/0033-2909.98.2.310
Diez Roux, A. V. (2001). Investigating neighborhood and area effects on health. *American Journal of Public Health, 91*, 1783–1789. doi:10.2105/AJPH.91.11.1783
Duke, N. N., Skay, C. L., Pettingell, S. L., & Borowsky, I. W. (2009). From adolescent connections to social capital: Predictors of civic engagement in young adulthood. *Journal of Adolescent Health, 44*(2), 161–168. doi:10.1016/j.jadohealth.2008.07.007
DuPertuis, L. L., Aldwin, C. M., & Bossé, R. (2001). Does the source of support matter for different health outcomes? Findings from the normative aging study. *Journal of Aging and Health, 13*, 494–510. doi:10.1177/089826430101300403
Echeverría, S., Diez-Roux, A. V., Shea, S., Borrell, L. N., & Jackson, S. (2008). Associations of neighborhood problems and neighborhood social cohesion with mental health and health behaviors: The multi-ethnic study of atherosclerosis. *Health & Place, 14*, 853–865. doi:10.1016/j.healthplace.2008.01.004
Ertel, K. A., Glymour, M. M., & Berkman, L. F. (2009). Social networks and health: A life course perspective integrating observational and experimental evidence. *Journal of Social and Personal Relationships, 26*(1), 73–92. doi:10.1177/0265407509105523
Evans, M. K., Lepkowski, J. M., Powe, N. R., LaVeist, T., Kuczmarski, M. F., & Zonderman, A. B. (2010). Healthy Aging in Neighborhoods of Diversity across the Life Span (HANDLS): Overcoming barriers to implementing a longitudinal, epidemiologic, urban study of health, race, and socioeconomic status. *Ethnicity & Disease, 20*(3), 267–275.
Israel, B. A., Schulz, A. J., Estrada-Martinez, L., Zenk, S. N., Viruell-Fuentes, E., Villarruel, A. M., & Stokes, C. (2006). Engaging urban residents in assessing neighborhood environments and their implications for health. *Journal of Urban Health, 83*, 523–539. doi:10.1007/s11524-006-9053-6
Kawachi, I., & Berkman, L. F. (Eds.). (2003). *Neighborhoods and health,*. New York: Oxford University Press.
Krause, N. (1997). Received support, anticipated support, social class, and mortality. *Research on Aging, 19*, 387–422.
Krause, N. (2001). Social support. In R. H. Binstock & L. K. George (Eds.), *Handbook of aging and the social sciences,* (pp. 272–294). San Diego: Academic Press.
Lee, B. K., Glass, T. A., James, B. D., Bandeen-Roche, K., & Schwartz, B. S. (2011). Neighborhood psychosocial environment, apolipoprotein E genotype, and cognitive function in older adults. *Archives of General Psychiatry, 68*, 314–321. doi:10.1001/archgenpsychiatry.2011.6
Lenzi, M., Vieno, A., Santinello, M., & Perkins, D. D. (2013). How neighborhood structural and institutional features can shape neighborhood social connectedness: A multilevel study of adolescent perceptions. *American Journal of Community Psychology, 51*, 451–467. doi:10.1007/s10464-012-9563-1
Lin, G., & Langen, S. (2001). Making the transition from family support for the elderly to social support for the elderly. *Chinese Sociology & Anthropology, 34*(1), 35–48. doi:10.2753/CSA0009-4625340135
Mair, C., Diez Roux, A. V., & Morenoff, J. D. (2010). Neighborhood stressors and social support as predictors of depressive symptoms in the Chicago Community Adult Health Study. *Health & Place, 16*, 811–819. doi:10.1016/j.healthplace.2010.04.006
Mair, C. A. (2019). Alternatives to aging alone?: "Kinlessness" and the importance of friends across European contexts. *Journals of Gerontology: Series B, 74*, 1416–1428. doi:10.1093/geronb/gbz029
Mair, C. A., & Thivierge-Rikard, R. V. (2010). The strength of strong ties for older rural adults: Regional distinctions in the relationship between social ties and subjective well-being. *International Journal of Aging & Human Development, 70*(2), 119–143. doi:10.2190/AG.70.2.b
Morenoff, J. D., Sampson, R. J., & Raudenbush, S. W. (2001). Neighborhood inequality, collective efficacy, and the spatial dynamics of urban violence. *Criminology, 39*, 517–560.
Mujahid, M. S., Diez Roux, A. V., Morenoff, J. D., & Raghunathan, T. (2007). Assessing the measurement properties of neighborhood scales: From psychometrics to ecometrics. *American Journal of Epidemiology, 165*, 858–867. doi:10.1093/aje/kwm040
Pavalko, E. K., & Wolfe, J. D. (2016). Do women still care? Cohort changes in US women's care for the ill or disabled. *Social Forces, 94*, 1359–1384. doi:10.1093/sf/sov101
Portes, A. (1998). Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology, 24*(1), 1–24. doi:10.1146/annurev.soc.24.1.1
Pridmore, P., Thomas, L., Havemann, K., Sapag, J., & Wood, L. (2007). Social capital and healthy urbanization in a globalized world. *Journal of Urban Health, 84*(1), 130–143.
Radloff, L. S. (1977). The CES-D Scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*(3), 385–401. doi:10.1177/014662167700100306
Raudenbush, S. W., & Sampson, R. J. (1999). Ecometrics: Toward a science of assessing ecological settings, with application to the systematic social observation of neighborhoods. *Sociological Methodology, 29*, 1–41.
Roberts, S.G.B., & Dunbar, R.I.M. (2011). The costs of family and friends: An 18-month longitudinal study of relationship maintenance and decay. *Evolution and*

Human Behavior, 32(3), 186–197. doi:10.1016/j.evolhumbehav.2010.08.005
Sampson, R. J., Morenoff, J. D., & Earls, F. (1999). Beyond social capital: Spatial dynamics of collective efficacy for children. *American Sociological Review, 64*, 633–660.
Schieman, S. (2005). Residential stability and the social impact of neighborhood disadvantage: A study of gender- and race-contingent effects. *Social Forces, 83*, 1031–1064.
Seeman, T. E., Lusignolo, T. M., Albert, M., & Berkman, L. (2001). Social relationships, social support, and patterns of cognitive aging in healthy, high-functioning older adults: MacArthur Studies of Successful Aging. *Health Psychology, 20*(4), 243–255. doi:10.1037/0278-6133.20.4.243
Tendulkar, S. A., Koenen, K. C., Dunn, E. C., Buka, S., & Subramanian, S. V. (2012). Neighborhood influences on perceived social support among parents: Findings from the Project on Human Development in Chicago Neighborhoods. *PLOS One, 7*(4), Article e34235. doi:10.1371/journal.pone.0034235
Thoits, P. A. (1995). Identity-relevant events and psychological symptoms: A cautionary tale. *Journal of Health and Social Behavior, 36*(1), 72–82.
Uchino, B. N. (2004). *Social support and physical health: Understanding the health consequences of relationships,*. New Haven, CT: Yale University Press.
Uchino, B. N. (2006). Social support and health: A review of physiological processes potentially underlying links to disease outcomes. *Journal of Behavioral Medicine, 29*(4), 377–387. doi:10.1007/s10865-006-9056-5
White, K.J.C., & Guest, A. M. (2003). Community lost or transformed? Urbanization and social ties. *City & Community, 2*(3), 239–259. doi:10.1111/1540-6040.00053
Yen, I. H., Yelin, E. H., Katz, P., Eisner, M. D., & Blanc, P. D. (2006). Perceived neighborhood problems and quality of life, physical functioning, and depressive symptoms among adults with asthma. *American Journal of Public Health, 96*, 873–879. doi:10.2105/AJPH.2004.059253
York Cornwell, E., & Behler, R. L. (2015). Urbanism, neighborhood context, and social networks. *City & Community, 14*(3), 311–335. doi:10.1111/cico.12124

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