

# Measuring Neighborhood: A Conundrum for Human Services Researchers and Practitioners

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**Abstract** This article contributes to the knowledge base of neighborhood intervention and research by reviewing the myriad ways the construct *neighborhood* is operationalized. The interdisciplinary review presents a critical examination of each measurement genre from quantitative to qualitative. The discussion of neighborhood measures includes (a) census and other administrative data, (b) windshield surveys, (c) rating scales, (d) structured/unstructured interviews (including ethnographies), (e) residents' written descriptions, (f) photographs, (g) drawings, and (h) mixed method constructions. When pertinent, the role of children's voices in these measures is discussed. In addition, the conceptual nature of *neighborhood* is examined from the perspective of environment and place. This environment–place duality is presented as a framework for choosing the type of measure one plans to use for research or practice. Conclusions suggest that research and practice are enhanced by building bridges between measures representing environment and measures representing place. Such bridges offer opportunities to develop interventions that are viable for creating lasting change.

**Keywords** Neighborhood · Measurement · Environment · Place · Qualitative · Quantitative

## Introduction

Measuring the construct *neighborhood* represents a conundrum for social science researchers and practitioners

who aspire to comprehend how neighborhoods affect the behavioral, cognitive, emotional, and physical development of children and youth. This article addresses current knowledge about the construct *neighborhood* by reviewing the numerous ways it has been operationalized across disciplines. This cross-disciplinary review responds to Linney's (2000) suggestion that "other disciplines may provide community psychology researchers with potential measurement strategies" (p. 664). In her own review of measures of context Linney (2000) provides a detailed discussion of a variety of measurement strategies such as, social climate scales, behavior setting analyses, observation inventories (e.g., Program Analysis of Service Systems or PASS) physical environment indices (e.g., space and furniture arrangement, decibel levels, pollution), demographic and social indicators of context, and multimodal assessments of context (e.g., Multiphase Environmental Assessment Procedure or MEAP). Many of the strategies presented in Linney's (2000) review were developed and employed in contexts such as residential treatment or living facilities, hospice settings, school buildings, classrooms, and organizations. A few of the strategies specifically address measures of neighborhood context (e.g., behavior setting analyses in Barker and Wright 1955) and Linney suggests that researchers explore how some of the other strategies could be utilized for assessment of larger contexts such as neighborhood. For example, she points out that indicators of physical environment could be applied in assessments of communities in terms of "percentage of space devoted to parks, outdoor lighting levels, and the ratio of different types of housing units" (p. 653). Future endeavors that move such explorations forward will strengthen community research and practice.

The review presented here differs from Linney's (2000) in that it is devoted to considering the context of neigh-

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borhood. However, there are important junctures where the two works converge especially in considering the challenges to assessing the transactional nature of person-in-context and the critique of measures of context. These foci of convergence will be highlighted when appropriate. This review includes an examination of the merits and challenges presented by each type of measure of neighborhood in terms of research and human services practice. A secondary task of this article is to urge researchers and community practitioners to operationalize *neighborhood* in all of its complexity so as to produce an effective evidence-base for comprehending and shaping the neighborhood processes that influence children and youth. Burton et al. (1997) support these goals when they suggest that it is time for social science researchers to “assess how ‘ways of thinking about’ and ‘ways of measuring’ neighborhood influence our understanding of child development” (p. 132).

Understanding the ways in which neighborhoods may or may not influence developmental outcomes is pertinent to human services practice that strives to understand each person within her or his immediate environmental context. Historically, the neighborhood has been recognized as a location of import by human services professionals and urban planners (e.g., the Settlement House Movement and the City Beautiful Movement). However, in contemporary human services practice with children and families broader social and physical environments, such as neighborhoods, are often omitted from the evidence-base that informs assessments and interventions. In fact, some have been critical of this omission such as Specht and Courtney (1989) who note that social work, specifically, overemphasizes the individual at the expense of a focus on community.

While great advances have occurred in the study of neighborhood effects research (e.g., Project on Human Development in Chicago Neighborhoods, Moving to Opportunity), researchers still struggle with methodological challenges that often lead to mixed and/or inconclusive results (e.g., see Aaronson 1997; Plotnick and Hoffman 1999). Additionally, Furstenberg and Hughes (1997) point out that little has been done to “open the black box containing the processes by which neighborhoods influence children’s lives” (p. 23). Thus, it is not surprising that “neighborhood” is a neglected component in the evidence-base on which human services professionals draw for practice. While there are several methodological hurdles to conducting research on neighborhood effects, the foundation for such studies rests, in part, on the manner in which “neighborhood” is measured. Hence, this article’s focus on how the construct neighborhood has been measured by researchers across disciplines.

Our conceptual and theoretical definitions inform the manner in which constructs are operationalized. Therefore, this article begins with an exploration of *neighborhood* as a conceptual entity. That exploration is followed by a review of strategies that have been employed for measuring the construct *neighborhood*. These strategies represent both quantitative and qualitative perspectives.

### Conceptualizing Neighborhood: Environment and Place

Due to its ubiquitous use in the English language, the term *neighborhood* often has many definitions. This common but varied usage points to the fact that *neighborhood* is rich with subjective meanings. In an effort to deepen comprehension of this complex construct, I begin with a discussion of *neighborhood* as “environment” and *neighborhood* as “place.” This is followed by a review of the manner in which various scholars (Chaskin 1995; Gephart 1997; Wachs 1999; Forrest and Kearns 2001; Meegan and Mitchell 2001) conceptualize *neighborhood*.

The words, *environment* and *place* are often used interchangeably as if they were synonymous and both terms are used in reference to neighborhoods. However, given the socially constructed nature of the terms, each one is likely to represent different meanings to different practitioners and researchers. In this section, I explicate a socially constructed distinction between these terms so as to provide a convenient framework from which to consider the various measures of the construct neighborhood. While I am aware that the environment–place distinction may not represent any consensus among community researchers or practitioners, readers may find it provides a useful framework for their own endeavors of sorting out measures of “neighborhood”.

Kemp (2001) provides the foundation for this socially constructed distinction between “environment” and “place” when she conjectures that environment and place can be distinguished from one another. She constructs the concept environment as a “static context that most people experience in the same way” (Kemp 2001, p. 10). Kemp’s use of the term static in reference to environment is similar to the term person, which she suggests “implies a universal subject of no identifiable gender, race, class, sexual orientation, or age” (p. 10). Thus, viewing neighborhood as “environment” does not suggest that the viewer lacks an awareness of the ways in which a neighborhood changes over time, nor does it suggest that all residents have the exact same experiences within it. Instead, Kemp employs her social construction of “environment,” to suggest that the human services professional who does not reside in a neighborhood he or she serves is an “outsider,” and subject

to making assessments solely on generic data such that the assessments lack the substance one can gain when the perspectives of those who reside within the neighborhood are taken into account. Assessments of neighborhood that lack a measure of the transactional processes among residents could be viewed similarly to instruments that Linney (2000) labels as “static snapshots or unidimensional constructs” (p. 663).

In contrast, to environment, Kemp (2001) constructs “place” as resulting from an individual’s or group’s lived experience of an environment over time. She provides a more explicit example of the delineation between environment and place when she states, “In neighborhoods such as Laneta’s, [case example within the article] which are socially isolated and beset with highly visible problems, helping professionals’ assessments often become a laundry list of everything that is visibly wrong in the environment. Less focused on are the details of Laneta’s experiences and history *in this place*, her strategies for surviving in this environment, or the relationships among her immediate experience, her cultural context, and the larger cultural and spatial history of her community” (Kemp 2001, pp. 11–12). Hence, according to Kemp’s construction of place, one’s perception changes when one is or becomes an “insider” for it is through lived experience that an environment becomes constructed as a “place” that contains both positive and negative qualities. Kemp’s observations about “place” are extended by Dixon and Durrheim (2000) when they state, “... it is through language that everyday experiences of self-in-place form and mutate, moreover, it is through language that places themselves are imaginatively constituted in ways that carry implications for who we are (or who we claim to be)” (p. 32). Childress’s (1994) working definition of place, “A place is an environment made whole in the imagination and used to define and orient the self” (p. 57), also furthers Kemp’s (2001) delineation of “place”.

Taken together, this construction of “environment” and “place” suggest that the researcher or human services practitioner who does not participate in the day to day lived experience of the neighborhoods he or she researches or serves, is not privy to the intricacies of the social processes that constitute a resident’s daily life or the way in which her or his lived experience within that context, contributes to life options and choices. If we measure “neighborhood” for practice or research, in Kemp’s terms, solely as “environment” we overlook the lived experience of those who reside within that locale. While measures of neighborhood as environment could include strengths and not solely a “laundry list” of problems, the voices of those we hope to understand and serve will still be absent from our work when only such measures are employed. On the other hand, measures of neighborhood as environment are

equally important for ferreting out the structural factors of a neighborhood that impinge on residents’ daily lives and how those factors may differentially affect residents of varying age, gender, family status, and economic status to name a few. Therefore, it is my assertion that an environment–place framework, as explicated here, provides a potentially useful tool from which to consider measures of the construct neighborhood as viewed from an outsider’s perspective and an insider’s perspective.

This environment–place distinction is not, on my part, to suggest that views of neighborhood as environment lead one to assume that all residents within a neighborhood are equally and negatively affected by its structural characteristics. Nor is it to suggest that researchers and practitioners who employ measures of neighborhood as “environment” lack a recognition of neighborhood assets. In fact, the work of neighborhood researchers (e.g., Brooks-Gunn and colleagues; Coulton and colleagues) and ecological psychology scholars (e.g., Bronfenbrenner and colleagues) attests to these issues. The goal here is to depict a useful framework for considering how and for what purposes we choose measures of neighborhood. The complexity of this choice is further explicated through the following exploration of the environment–place continuum within conceptual formulations of “neighborhood”.

Chaskin’s (1995) definition of neighborhood provides an example of the environment–place duality. He conceptualizes neighborhood as a “geographically bound unit in which the residents share proximity and the circumstances within that proximity” (p. 1). These circumstances include the following set of connections which can be present at varying levels: social connections (kin/friends), functional connections (production, consumption, transference of goods and services), cultural connections (religion, tradition, ethnicity), and circumstantial connections (economic status or lifestyle) (Chaskin 1995). Chaskin’s (1995) characterization of neighborhood minus the connections renders neighborhood as an environment. It is the connections that are integral to defining neighborhood as place. What is key, however, is that the mere fact of residing in a neighborhood, does not mean that it becomes constituted as a “place” or contains any degree of the connections to which Chaskin (1995) refers. As the work of Brodsky (1996) demonstrates, in some neighborhoods, families succeed by avoiding their neighborhoods as a means to “define and orient the self.” Hence, a neighborhood could even be viewed by residents as an “environment.” Therefore, it is the individual’s relationship to a neighborhood that makes it a place (socially constructed and viable for one’s self definition) or an environment (a list of characteristics from an outsider position).

Therein lays the complexity of measuring neighborhood as a means for producing science that confirms or discon-

firms how it may or may not influence developmental outcomes. This environment–place dichotomy that appears to be embedded within the construct “neighborhood,” presents itself, albeit unnamed as such, in other conceptualizations of neighborhood. For example, Gephart (1997) provides the following definition of neighborhood. “Conceptually, neighborhoods and communities are the immediate social contexts in which individuals and families engage with the institutions and social agents that regulate and control access to community opportunity structures and resources” (p. 9). She notes that neighborhoods are spatial units, associational networks, and perceived environments. Further, Gephart (1997) states that “the strongest linkages between neighborhoods and individual outcomes include not only measures of the objective characteristics of neighborhoods [i.e., environment], but also the characterizations of the perceived neighborhood; its norms, opportunities, barriers, dangers, models, controls, pressures, and supports and seen by the residents [i.e., place]” (p. 10). This view is congruent with Chaskin’s (1995) conceptual definition of neighborhood and both views support the notion that in depth measures of neighborhood ought to capture objective structural elements as well as the subjective characterizations that result from lived experience within a particular locale.

Wachs (1999) concurs with this when he notes that some of the complexities in measuring *neighborhood* result from it being a multidimensional entity that encompasses (a) objective and subjective components and (b) proximal and distal processes. He clarifies the objective–subjective duality of neighborhood when he states, “the environment is more than the objective environment; there is a parallel environment that is the individual’s subjective experience or perception of his or her objective environment” (Wachs 1999, p. 365). Indeed, Lawton (1999) points out that at each level of environmental structure there is a parallel level of subjective environment. Wachs (1999) provides an example of this when he states, “At the level of the suprapersonal context, the objective environment might be measures of neighborhood characteristics, whereas the subjective parallel environment could be the individual’s feelings about the degree of neighborhood safety or the target group whom the person compares him- or herself to in his neighborhood” (p. 365).

In addition to the objective and subjective components noted above, the component of proximal and distal processes of neighborhood is also noted by Wachs (1999). This conceptualization is well explicated by Forrest and Kearns (2001) who suggest that neighborhoods not only influence residents via their social composition and interactions, but also as a result of how they are “seen by residents in other neighborhoods and by the institutions and agencies which play a key role in opportunity structures”

(p. 2134). Meegan and Mitchell (2001) also describe the importance of conceptualizing neighborhood as an entity with proximal and distal processes. Conceptualizations of the construct neighborhood that encompass subjective–objective components as well as proximal and distal processes are akin to the place–environment dichotomy discussed earlier. In fact, Kemp (2001) summarizes the importance of conceptualizing neighborhood as an entity that encompasses these components and processes when she states, “No environment can be understood in isolation from the personal and cultural experiences of the people within it or the larger social political arrangements that shape and are shaped by this everyday experience” (p. 13).

A summary of the conceptual definitions of neighborhood reviewed in this section is presented in Table 1. There is great congruence among these conceptualizations even though they represent the work of scholars in several disciplines. In fact other scholars (Furstenberg et al. 1999; Garner and Raudenbush 1991; Sampson 2000) conceptualize the neighborhood as a complex, multidimensional entity that encompasses both objective and subjective elements as well as being subject to both proximal and distal processes. The greater complexity and differentiation arises as we move beyond conceptualization to operationalization for research and intervention development. It is here that the subjectivity inherent in the construct *neighborhood* creates a great challenge for those who aspire to measure it for scientific or intervention purposes. This challenge is arduous, as Aber and Nieto (2000) note that “Despite nearly a 100 years of scholarly interest in neighborhoods, the question of what precisely constitutes a neighborhood remains unresolved and largely unexamined” (p. 188).

### Measuring Neighborhood

As we move from the conceptual realm to measurement of *neighborhood* for the purposes of research and practice, the variables we employ are given the difficult task of accounting for neighborhood as an objective entity and a subjective experience. In fact, Korbin (2001) cautions against the use of measures which focus on neighborhood structure alone and neglect the meanings residents place on their neighborhood experiences. It is not often that measures of neighborhood incorporate both of these elements. As Gephart (1997) points out, measures that are typically employed in research on neighborhood contextual effects, such as census tract data, lack information about social processes and resident perceptions, and hence result in findings that declare weak links between neighborhood characteristics and individual outcomes.

**Table 1** Conceptualizing neighborhood

Scholar(s)	Conceptualization
Chaskin (1995, p. 1)	“Geographically bound unit in which the residents share proximity and the circumstances within that proximity.” The circumstances within that proximity include the following set of connections which can be present to some degree: social connections (kin/friends); functional connections (production, consumption, transference of goods and services); cultural connections (religion, tradition, ethnicity) and circumstantial connections (economic status or lifestyle).
Gephart (1997, pp. 9–10)	“Conceptually, neighborhoods and communities are the immediate social contexts in which individuals and families engage with the institutions and social agents that regulate and control access to community opportunity structures and resources.” “The strongest linkages between neighborhoods and individual outcomes include not only measures of the objective characteristics of neighborhoods [i.e., environment], but also the characterizations of the perceived neighborhood; its norms, opportunities, barriers, dangers, models, controls, pressures, and supports and seen by the residents [i.e., place].”
Wachs (1999, p. 365)	“The environment is more than the objective environment; there is a parallel environment that is the individual’s subjective experience or perception of his or her objective environment” (p. 365). “At the level of the suprapersonal context, the objective environment might be measures of neighborhood characteristics, whereas the subjective parallel environment could be the individual’s feelings about the degree of neighborhood safety or the target group whom the person compares him- or herself to in his neighborhood.”
Meegan and Mitchell (2001, p. 2172)	Neighborhood is a “key living space through which people get access to material and social resources, across which they pass to reach other opportunities and which symbolizes aspects of the identity of those living there, to themselves and to outsiders.”

Incorporating both objective and subjective components of neighborhood is more easily stated than accomplished. Garner and Raudenbush (1991) point out the complexity of operationalizing neighborhood when they state, “Neighborhoods are not uni-dimensional, spatial units. They vary in their definition, depending on the type of problem to be studied and the supposed relationship between their characteristics and the phenomenon under study” (p. 252). For example, certain variables may be more or less important at different phases of the life course. Indeed, Bronfenbrenner (1979, 1989) notes the importance of time as an element in comprehending developmental outcomes in relation to environments such as the neighborhood. Evans (1999) and Brown (1999) provide some examples, such as age at exposure to toxins and age differences in the role of peer groups. In addition, it is likely that a single variable, such as availability of neighborhood parks, may predict one outcome when measured structurally (as environment), and another outcome when measured subjectively via resident perceptions (as place). Thus, there is a need for a wide assortment of variables and strategies for operationalizing neighborhood.

The innumerable variables that represent the multidimensionality of *neighborhood* with its objective–subjective duality can be viewed as a complex conglomeration comprised of four categories: social composition, economic composition, social processes, and physical composition/resources. Examples of the variables associated with these categories are listed in Table 2. The categories and variables in this table were derived from an examination of the theory and research on neighborhoods and human behavior. It represents an abridged list of the po-

tential variables one can employ in measures of neighborhood contexts. The variables associated with each category are listed in separate sections of the table. While this separation is depicted for visual ease there is a transactional relationship among all of the variables as they make up the ecological context for person-in-context processes. It is this transactional nature of the variables that contributes to the complexity of measuring *neighborhood*.

The variables associated with social and economic composition build measures most commonly associated with neighborhood as “environment,” while the social processes category is akin to neighborhood as “place.” The variables in the physical conditions/resources category fall into either the environment or place construction depending on how they are measured. For example, a measure in which trained observers tally the number of community centers in a neighborhood represents an outsider’s view (neighborhood as environment), while a measure that queries neighborhood residents about their perceptions of the quality and use of community centers will provide an “insider’s” view (neighborhood as place).

The variables noted in Table 2 and others have been measured via a range of strategies that include (a) census and other administrative data, (b) windshield surveys or systematic social observations, (c) neighborhood rating scales, (d) structured and unstructured interviews (including ethnographies), (e) written descriptions, (f) photographs, and (g) drawings. Each strategy is discussed in terms of the measure used, the problems inherent in it, and the manner in which it helps to remedy some of the problems presented by other measures. A summary of these strategies can be found in Table 3.

**Table 2** Categories and related variables of neighborhood

<i>I. Social composition</i>	<i>III. Social processes</i>
Age	Organizational participation
Race/ethnicity	Unsupervised teens
Nativity	Neighboring
Residential mobility	Crime
Density of children	Value consensus
Percent of female headed households	Community monitoring
Percent of elderly	Social capital/social networks
Percent of single parents	Civic participation
<i>II. Economic Composition</i>	<i>IV. Physical Composition/Resources</i>
Percent affluent neighbors	Condition of housing
Poverty	Trash/litter
Employment	Graffiti
Percent white collar workers	Traffic, street, and parking conditions
Percent managerial/professional workers	Play grounds/parks
Education	Proximity to employment and public transportation
Public housing	Community centers
Home ownership	Schools
Proximity to affluent neighborhoods	Bars, grocery stores, retail shops, cafes
	Libraries
	Abandoned homes and Vacant lots
	Crowding
	Architecture

Nicotera (2003, pp. 102–103)

Some of these strategies include the voices of children. This inclusion is important because even though children are the target of much of the research on neighborhood effects, their voices are often absent. The inclusion of the child's voice in measures of neighborhood is important because there is a dearth of research that explores associations between measures of neighborhood as environment (objective or structural dimensions) and the subjective perceptions (neighborhood as place) of youth who reside within neighborhoods (Seidman et al. 1998). As each strategy is reviewed I will indicate when children's voices are employed as part of the measure.

#### Census and other Sources of Administrative Data

Census data and other administrative data such as social indicator data, which is discussed extensively by Linney (2000), are used for quantitative measures of the construct *neighborhood*. In fact Linney (2000) points out examples of social indicator data that would provide important markers of neighborhood quality of life (e.g., education expenditures per student, hospital admissions, emergency

medical calls, and suicides) and markers of local values or patterns of activities (e.g., sales tax receipts for purchase of alcohol and per capita rates of video poker machines). In addition to census and social indicator data, the use of geographic information systems (GIS) allows for the mapping of neighborhood demographics (see Linney 2000 for succinct discussion of this method). Such maps have potential to provide important visual and associational data related to the distribution of structural neighborhood characteristics. Operationalizing the *neighborhood* via these types of data allows us to measure and focus on structural neighborhood conditions from an "outsider's" perspective. Such data provide important details about neighborhood that include: housing density, distance from economic centers, levels of crime and arrests, social and economic composition, percentages of residential versus commercial properties, and ground rent to name a few. However, these data, accounting for only one aspect of *neighborhood*, limit understanding. As Leventhal and Brooks-Gunn (2000) suggest, "operationalizing neighborhood with SES characteristics or other census or zip code-based data is useful for measuring the structural components of neighborhoods, but does not directly evaluate the social organizational aspects of neighborhoods, such as informal social control and social cohesion" (p. 313).

It is important to note, however, that census or other administrative data can be employed in creative ways that extend structural measures of neighborhood beyond SES factors, for example the indicator of social isolation presented by Brooks-Gunn et al. (1993). However, these measures still do not provide details of the day-to-day lived experience within a particular locale. Additionally, renderings of *neighborhood* developed from census or other government data sources may not fully represent informal neighborhood boundaries that are relevant to residents. Hence they may omit the concentration of conditions that actually impact children and families and may underestimate the effects of these conditions on residents (Ellen and Turner 1997). In fact, Burton and Price-Spratlen (1999) demonstrate that children and parents in the same households have different definitions of neighborhood boundaries. Furthermore, the difference in resident perceptions of neighborhood boundaries may also be accompanied by perceptions of neighborhood quality that do not always coincide with structural characteristics as determined by data that represents government designated boundaries such as zip code areas. For example, a study of families who participated in the Moving to Opportunity Program demonstrates that the mothers in the experimental group (required to move to neighborhoods where 10% or less of the residents are poor) and mothers in the comparison group (allowed to use a voucher to move to any neighborhood) all had more positive feelings about their new

**Table 3** Summary of measures for the construct neighborhood

Type of measure and focus	Description of measure	Problems with the measure
Census data, zip code areas, police and housing statistics, other social indicators	Gathered from centralized government sources and other data bases. Provides quantitative data that include: levels of crime, ratios of residential and commercial properties, numbers of single headed households, levels of education, residential stability, level of poverty, employment, and education.	Represent only structural characteristics, may not coincide with neighborhood boundaries and perceptions of actual residents, does not account for neighborhood social processes and networks, may not represent the neighborhood in which a person or group of persons participate.
Measures neighborhood as an environment and focuses on social and economic composition.	A structured survey conducted by trained observers who travel within the neighborhood boundaries (as defined by the researchers) at specific times of the day and rate the neighborhood on the elements put forth in the pre-designed survey.	Survey items are generated by "outsiders," time consuming, and costly, requires careful training of observers, does not account for social processes and networks as defined by residents' subjective experiences.
Windshield surveys or systematic social observations	Pre-determined questions to gather data from residents or others affiliated with a neighborhood. Can be used to determine neighborhood quality (e.g., abandoned homes, perceptions of crime, perceptions of inter-group conflicts, condition of local resources). Neighborhood rating scales could also be developed in collaboration with neighborhood residents via Community Based Participatory Action Research.	Items are generated by "outsiders." Requires careful scrutiny of scale to ascertain its usefulness for using aggregates of individual responses to measure neighborhood context. Needs to be scrutinized for correlation between personality, mood, and responses on scale questions. Requires respondents to read and write in English and to share the cultural meanings presented in the questions, or requires researcher to have the scale translated appropriately.
Measure neighborhood as place and focuses on social processes and physical conditions/resources.	Series of open ended or closed ended questions in a one to one interview or focus groups to assess a number of subjective neighborhood elements such as social networks, social processes, perceptions of neighborhood resources, and neighbors. Most extensive example of this measure for use with children is the Neighborhood Walk (Bryant 1985). An extensive example for use with adults is Community Asset Mapping (Kretzmann and McKnight 1993; McKnight and Kretzmann 1990) which would be very useful in Community Based Participatory Action Research.	Needs to be scrutinized for correlation between personality, mood, and responses to interview questions about neighborhood. Requires knowledge of shared language and cultural meanings or researchers to have appropriate language skills and cultural understandings. Expensive and time consuming. Questions created by "outsiders," but provide the opportunity to be very open, such as "tell me about your neighborhood." Requires the development of trust so as to assure that respondents are comfortable telling the researcher about their neighborhood. Researchers will want to gather data from various age groups within the neighborhood.
Could be utilized to assess insider's view of social and economic composition.	Neighborhood residents respond to open ended questions about their neighborhood in writing. Such writing has been accomplished with journals as well as in large group settings of 20 children. Careful coding with attention to "local" language can allow for the child's voice to be amplified.	Problems with the measure Needs to be scrutinized for correlation between personality, mood, and written responses to questions about neighborhood. Questions created by "outsiders," but provide the opportunity to be very open, such as tell me about your neighborhood. Requires respondents to have writing skills. Requires knowledge of shared language and cultural meanings or researchers to have appropriate language skills and cultural understandings. Respondent compliance with journals and collection of journals could be difficult.
Structured and unstructured interviews	Description of measure	
Measures neighborhood as place and focuses on social processes and physical conditions and resources. Could be utilized to assess insider's view of social and economic composition.	Neighborhood residents respond to open ended questions about their neighborhood in writing. Such writing has been accomplished with journals as well as in large group settings of 20 children. Careful coding with attention to "local" language can allow for the child's voice to be amplified.	
Type of measure and focus		
Written descriptions		
Measures neighborhood as place and focuses on social processes and physical conditions and resources.		
Could be utilized to assess insider's view of social and economic composition.		

**Table 3** continued

<p>Photographs</p> <p>Measures neighborhood as environment and place depending on the method of data collection and analysis. Focuses on social processes and physical conditions and resources.</p>	<p>Neighborhood residents take photographs and respond to interviews about the photographs. Interview accompanied by respondent created photographs allow for the child's voice to be heard. Conversely, researchers create aerial photographs of neighborhood to assess neighborhood conditions, such as vegetation. Photovoice provides parameters for the use of resident photos as well as its role in Community Based Participatory Action Research.</p>	<p>Resident photos and interviews are time and funding intensive. Aerial photographs can be accessed via certain web sites such as <a href="http://www.facilitiesmap.com/atlas.cfm">www.facilitiesmap.com/atlas.cfm</a>. If it is necessary to create one's own aerial photos then extreme costs and time would be required. Both methods (resident photos and aerial photos) require the creation and testing of systems for analysis.</p>
<p>Drawings and cognitive maps</p> <p>Measures neighborhood as environment and place depending on the method of data collection and analysis.</p> <p>Focuses on social processes and physical conditions and resources.</p>	<p>Used mostly with child respondents who are asked to draw pictures of their neighborhoods. Research indicates that the questions used to frame the drawings are sensitive to word choice. There is a known system for non-clinical analysis of drawings by children who reside in neighborhoods with high levels of violence.</p>	<p>This measure of neighborhood is time and cost effective since researchers can ask children in large classroom groups to complete the drawings. While useful for objectivity and comparison, the use of a systematic coding system without the inclusion of child interviews takes the drawings out of context and diminishes the child's voice.</p>

neighborhoods when compared to their previous neighborhoods (Rosenbaum 2001). While a greater percentage of mothers in the experimental group (50%) reported perceptions of increased neighborhood quality than those in the comparison group (20%), all of them noted reduced “problems with trash, graffiti, people drinking in public, drug dealers or users, and abandoned buildings as well as a heightened sense of security at home and on the streets” (Rosenbaum 2001, p. 18). Thus, there is a subjective experience that plays a role in how one perceives neighborhood quality that may or may not always coincide with a structural census-based variable such as percentage of residents living in poverty. This difference between structural measures of *neighborhood* and measures based on residents' perceptions is tested directly by Coulton et al. (2001). They found that “when residents' maps were used to create neighborhood boundary definitions, the resulting units covered different space and produced different social indicator values than did census-defined units” (Coulton et al. 2001, p. 371).

Another problem related to the use of census and administrative data as a proxy for neighborhood conditions is that it does not account for the variety of neighborhoods in which individuals may function (Burton and Price-Spratlen 1999). This may be more relevant for teenagers, who, due to their greater freedom and capacity to drive, indicate that their neighborhoods of sociability are more relevant than their neighborhoods of residence (Schiavo 1988). Schiavo's (1988) finding is echoed by South (2001) who suggests that “transition to young adulthood involves a broadening of the social world and an expansion of social contacts and experiences outside of the local area” (p. 88).

In addition to entrance into adolescence, there may be other life experiences such as living part-time with a parent and part-time with a grandparent, that lead one to experience a variety of neighborhoods and Burton and Price-Spratlen (1999) provide an excellent example of this. One of the children (age 11) in their study was quoted “Lady, I think you're pretty smart so let me tell you how it is. When I go to my momma's I have to be a bad ass or I will get beat up. So if you see me over there, I look like that. But, when I'm with Nana (grandmother) I'm the other way 'cause the kids over there don't fight that much so I don't have to swell up...” (Burton and Price-Spratlen 1999, p. 87). Social economic class may also influence the level of exposure one has to the neighborhood. Lareau's (2000) study found differential social patterns for middle class and working class youth. The middle class children in her sample spent more time outside of school in structured, supervised activities away from the neighborhood while the working class children in her sample spent more informal time outside of school that included “playing” in the neighborhood (Lareau 2000).



In addition to differential exposure to neighborhood based on age and social class, Jencks and Mayer (1990) note other difficulties related specifically to the use of census data as a measure for *neighborhood*. They point out that many of the studies they reviewed employ census tract socioeconomic status as a measure for neighborhood. These studies “typically include one or more of the following measures: mean or median family income, the mean education of one or both parents, some measure of occupational mix, the percentage of families with female heads, and the percentage on welfare” (p. 125). They state that composite measures such as these create difficulty in determining the relative importance of particular neighborhood characteristics. For example, it is possible that the occupational mix of a neighborhood might influence employment outcomes, as it could be a proxy for proximity and access to different types of jobs. On the other hand, employment outcomes might be related to educational experiences as determined by neighborhood income, which serves as a tax base for funding for local services such as schools or as a proxy for families who can afford to send their children to private schools. Jencks and Mayer (1990) suggest that this difficulty might be helped if researchers noted up front the weights given to the components of composite measures of neighborhood. This would allow for predictions of how specific combinations of neighborhood characteristics might impact individual outcomes (Jencks and Mayer 1990). However, one of the complexities of weighting structural neighborhood variables is that there are, to my knowledge, no theories of neighborhood effects that suggest how the variables ought to be weighted.

In a different light, the fact that specific combinations of neighborhood characteristics may predict different individual outcomes is demonstrated in Spencer et al. (1997) study that employed several measures of neighborhood, one of which is based on census factors. Their findings demonstrate that the census factors were most predictive of academic achievement for the 6th, 7th, and 8th graders in their sample. However, another measure of neighborhood, a windshield survey, was more predictive of parent reported behavior outcomes for adolescents as well as of neighborhood crime. Thus, while census data employed in their study are useful as a proxy measure for neighborhood as well as predictive of some outcomes, these data alone cannot account for all of the outcomes and processes that interest human services practitioners and researchers.

In spite of the problems associated with structural measures of neighborhood such as crime statistics, census data or other administrative data sources, they are useful for predicting some outcomes and are easily and inexpensively accessed. In addition, researchers can use census or administrative data to creatively add to their measures of

neighborhood. Sheidow et al. (2001) provide an example of this kind of creativity. They developed a measure of neighborhood resources by geo-coding the addresses of “churches, grocery stores, liquor stores, medical care providers, and other businesses” and computing the number of businesses or services per 1,000 residents (Sheidow et al. 2001, p. 350). A second example is provided by Sampson et al. (1997) who examined neighborhood collective efficacy by combining statistics on incidents of homicide, census data, and neighborhood resident responses to interviews in which they responded to items measuring social cohesion, informal social control, and levels of violence.

In addition to the creative application of measures of neighborhood as environment as noted above, recent statistical techniques such as hierarchical linear modeling (HLM) (see, Bryk and Raudenush 1992) make it feasible to account for variance related to nested data such as individuals residing within neighborhoods measured at the structural level. Results of such analyses assist in determining the differing influences of neighborhood contexts and individual characteristics. The challenge of this method for neighborhood research is that one needs a sufficiently large sample size of individuals and neighborhoods in order to be true to the method. Depending on how *neighborhood* is defined (e.g., census tract vs. one block of single family homes) one may or may not have sufficient numbers of individuals and neighborhoods to meet the sample size required for this statistical method. Brown et al. (2004) provide an excellent example of the application of HLM in their study on place attachment, incivilities, and crime.

Thus, this discussion about the problems of employing structural level data is not a call to suspend its use in neighborhood effects research, but an encouragement to use such data sources in tandem with other measures. I turn now to other techniques for measuring neighborhoods that may serve as remedies for the problems presented by the use of the structural measures discussed thus far.

#### Windshield Surveys

Leventhal and Brooks-Gunn (2000) suggest that windshield surveys or systematic social observations in which trained observers utilize a structured format for gathering neighborhood data may serve as a solution to the some of the problems encountered with census data. Similar to census data this type of measure explores neighborhood as environment. However, in contrast to census data with its emphasis on measuring social and economic composition, windshield surveys can deliver data on the physical composition, resources and social activities within a neighborhood.

The pinnacle of the “windshield survey” was conducted by Sampson and colleagues (e.g., see Sampson and Raudenbush 1999) as part of the Project on Human Development in Chicago Neighborhoods (PHDCN). This method involves systematic videotaping by trained observers. Data were collected as a vehicle, with a mounted video camera, was driven slowly down “every street in 196 Chicago census tracts [which] were selected from a stratified probability sample to maximize variation by race/ethnicity and SES” (Sampson and Raudenbush 1999, p. 615). Once the video tapes were produced, they were coded by trained observers, who noted the physical conditions and social conditions of neighborhood buildings and streets. For example, commercial versus residential properties were noted, vacant buildings were noted and litter, graffiti, drug paraphernalia among other items were tracked. Additionally, during the videotaping process, another trained observer created an audio tape in which he/she noted social interactions, such as drug deals, children playing, and gang activity (Duncan and Raudenbush 2001). Describing all the findings from the various research endeavors of the PHDCN is beyond the scope of this article. However, for the purposes of considering the operationalization of neighborhood, it is important to note that the measure of social disorder obtained from the video-taped windshield survey method (the outsider’s view) is correlated with resident perceptions of social disorder (the insider’s view) as obtained from a community survey ( $r = .56, p > .01$ ) (Sampson and Raudenbush 1999, p. 623). The community survey was completed during face-to-face interviews with 8,782 residents of the neighborhoods included in the project (Sampson and Raudenbush 1999).

Spencer et al. (1997) provide another example of a less costly and less time consuming windshield survey which they employ in conjunction with census data. The windshield survey, titled Neighborhood Assessment of Community Characteristics (NACC) requires the use of trained observers to complete pre-designed surveys. In the Spencer et al. (1997) study, the observations were conducted between 8:00 am and 8:00 pm in neighborhoods as defined by two central streets that represented major cross streets for study participants residing in 31 census tracts. The NACC includes 145 items that are rated as (a) poor, (b) fair, (c) good, or (d) excellent. The items include “(a) housing (condition, proximity to major thoroughfares, upkeep of yards), (b) neighborhood (condition of streets, degree of trash accumulation, noise levels, billboard advertisements), (c) recreational areas, (d) type and number of stores and businesses, (e) gathering places (hangouts), (f) transportation, and (g) security” (Spencer et al. 1997, pp. 148–149).

Researchers or practitioners who wish to employ methods such as the NACC will need to carefully consider how to choose the time of day for observation. For

example, qualitative neighborhood research demonstrates that neighborhoods have “shifts” such that certain times of the day are dominated by the sale of drugs and other criminal activities (Burton 1991).

As noted previously, this windshield measure (NACC) of neighborhood was useful for predicting some outcomes over and above census data, but not others. It provided the strongest predictions for neighborhood crime when compared to census data. The two dimensions of the NACC with the highest and most significant correlations to neighborhood crime were housing quality and housing characteristics. In addition, Spencer et al. (1997) note that the NACC measure is also useful for creating neighborhood typologies such that census tracts can be subdivided into smaller units.

The windshield survey method of measuring neighborhood, as depicted in the PHDCN study and the NACC, has utility for expanding research on and development of interventions for neighborhoods. In fact, the video taping method employed by Sampson and his colleagues demonstrates a strong correlation with resident perceptions of similar neighborhood characteristics. Thus, it is feasible that the use of windshield surveys may approach measures of neighborhood as place. At the same time, neither measure discussed here accounts for the meanings residents place on social processes and social networks.

Systematic social observation measures of neighborhood are expensive and time intensive and those who wish to employ them need to be well prepared to carefully train observers in the field. In addition, these methods require careful consideration of coding schemes because a priori codes and categories produced for content analysis run the risk of imposing an “outsider’s” meaning onto an “insider’s” lived experience.

#### Neighborhood Rating Scales

Neighborhood rating scales, when administered to residents, can be utilized to approximate measures of neighborhood as “place.” They can be an efficient means for gathering data on neighborhood social processes as well as residents’ views of neighborhood physical conditions and resources. One of the detractions of this method is that typically the questions on rating scales are pre-determined by researchers or practitioners, whose views cannot reflect the lived experiences of neighborhood residents. While it is feasible to develop rating scales in collaboration with neighborhood residents, this procedure is costly and time consuming. However, should one choose to do this the Community Based Participatory Action Research methodology would greatly facilitate this process.

In addition, there can be problems with applying individual perceptions of neighborhood as if they represented

contextual or aggregate aspects of neighborhood (Coulton et al. 1996). In fact, Coulton et al. (1996) developed and tested a neighborhood rating scale for its individual and aggregate reliability. They found that some individual perceptions of neighborhood, such as social disorder, residential stability, and neighborhood quality can be aggregated to measure contextual elements of a neighborhood. However, their results also indicate that some individual perceptions, such as social interaction within the neighborhood are not so reliable as aggregate measures of neighborhood context. Their rating scale was also valid on some sub-scales for differentiating between neighborhoods with high and low levels of risk for child maltreatment (Coulton et al. 1996). This research demonstrates the complexity involved in employing neighborhood rating scales and suggests that researchers utilize them with caution if the goal is to use aggregates of individual responses as a proxy for neighborhood context. In contrast, Herrenkohl et al. (2002) demonstrate that aggregated perceptions about neighborhood from a non-representative sample of youth correspond to census measures of neighborhood. Their results indicate that aggregate responses to survey data can be employed as measures of neighborhood context (Herrenkohl et al. 2002).

Neighborhood rating scales have also been combined with census data by Wikstrom and Loeber (2000). They utilized the following census variables: median household income, families below the poverty level, household size, percentages of youth, and housing stability to serve as a measure of neighborhood disadvantage, familism, and residential stability. The neighborhood scale they employed required parents in the sample to complete a scale with 17 items that assessed their view of the neighborhood in terms of problems such as prostitution, assaults, existence of abandoned houses, sale of stolen goods, evidence of public substance use, and neighborhood tension between different racial or cultural groups (Wikstrom and Loeber 2000). This measure was not used as a stand alone predictor, but was employed as a means to “validate [their] census-based neighborhood classifications showing significant variation in perceived quality of neighborhood” (Wikstrom and Loeber 2000, p. 1123). Four census-based neighborhood classifications were identified and labeled as (a) advantaged, (b) middle-range, (c) disadvantaged non-public housing, and (d) disadvantaged public housing. Among other results, Wikstrom and Loeber (2000) found “significant differences in the prevalence and age of onset of serious juvenile offending by neighborhood socioeconomic context” (p. 1127). In addition, variation in neighborhood socioeconomic context influenced rates of serious offending at different levels of individual risk factors. Hence, this measurement strategy was useful for ferreting out individual and

neighborhood contextual influences on serious offending behaviors in youths.

Other researchers, (Pinderhughes et al. 2001; Martinez et al. 2002) have employed neighborhood rating scales to examine the relationship between neighborhood context and parenting behaviors. Pinderhughes et al. (2001) include items that measure dissatisfaction with public services, presence of social networks, and neighborhood danger. Martinez et al. (2002) test the Perceived Neighborhood Scale which covers social embeddedness, sense of community, satisfaction with neighborhood, and perceived crime.

Neighborhood rating scales move the researcher closer to the “insider’s” view of neighborhood. However, if we wish to employ such measures, data will need to be gathered from a variety of age groups, since views of neighborhood quality may be very different for children, teenagers, young adults, middle age adults, and the elderly. These differences of perception by age have been uncovered by various researchers (Berg and Medrich 1980; Burton et al. 1997; Lee and Campbell 1997; Zill 1977 as cited by Bryant 1985). Bryant (1985) cites research in which 60% of the parents interviewed rated their neighborhoods as “very good” or “excellent” places to raise children, while less than one third of the children (ages 7 to 11) described the same neighborhoods as “very good” or “excellent” places to grow up (Zill 1977 as cited by Bryant 1985). This same discrepancy is demonstrated by Berg and Medrich (1980) who studied neighborhoods in Oakland, California. They point out that while the adults enjoy the privacy and isolation of one of the neighborhood settings in the study, it is this same feature that the children in the neighborhood find to be an infringement on their play patterns and social relationships.

The findings from the two studies mentioned above, point out the discrepancy that exists between adults’ and children’s perceptions of neighborhood and attest to the importance of measures of neighborhood that include voices from varying age groups. Adults with their more extensive experience of neighborhoods may view a neighborhood as an excellent place live and raise children because of access to good schools or large yards and large measures of distance between dwellings (the privacy and isolation as noted above). On the other hand children as young as those in Zill’s (1977) and Berg and Medrich’s (1980) studies, may not be cognizant of school quality and wish only to live in dwellings that are nearer in distance to their friends for ease of access to playmates or nearer to a store where they can purchase after-school treats. Thus, one would not conclude from such studies that adults should move to neighborhoods based on the opinions of children. Instead, studies such as the two cited here imply that children are differentially affected, for example, by the

distance they live from friends and that this can impact their social lives, which in turn, could impact the development of social skills if access to playmates outside of the school-day is not possible. In fact, Burton et al. (1997) point out that the factors adults employ in their assessments of neighborhood quality may not be the same factors children or teens would consider important and that “children’s perceptions of risks in their environment, as compared to their parents’ perceptions, are uniquely important predictors of behavioral outcomes” (p. 139).

In addition to neighborhood quality, age differences also appear in resident perceptions of neighborhood size or boundaries (Burton and Price-Spratlen 1999; Lee and Campbell 1997). Respondents in Lee and Campbell’s (1997) study indicated the size of their neighborhood in blocks such that the younger respondents (ages 18–39) and the oldest respondents (ages 60+) viewed the size of their neighborhood as smaller than those in middle age range (ages 40–59). Burton and Price-Spratlen (1999) provide ethnographic evidence of age difference in perspectives on neighborhood size. Fifty-six percent of the cases in their study attest to variation between adults, youths, and children in perception of neighborhood size (Burton and Price-Spratlen 1999).

This variation in neighborhood perception by age suggests that neighborhood rating scales be developed with specific age groups in mind. Bass and Lambert (2004) studied existing data that employed a neighborhood rating scale that was developed for research with youths. This scale is titled the Neighborhood Environment Scale (NES) (Elliot et al. 1985) and was developed to assess “exposure to deviant behavior in the neighborhood, including violent crime, drug use and sale, racism, and prejudice” (Bass and Lambert 2004, p. 283). The scale also includes items that measure perceptions of safety (Bass and Lambert 2004). Respondents rate each item as true or false making it easily accessible for young people.

Sheidow et al. (2001) also use a neighborhood rating scale with youths, though the scale was not developed for, or used solely with, young people. The rating scale measures “neighborhood social organization,” and was completed by mothers and their teenage sons (ages 13–17). The scale queried the mothers and sons about (a) a sense of belonging (e.g., I am similar to others in the neighborhood, I belong to the neighborhood), (b) support (e.g., I could ask someone in the neighborhood for advice, I visit with neighbors in their homes), and (c) involvement (e.g., I am willing to work with neighbors to improve the neighborhood). Similar to Wikstrom and Loeber (2000), these researchers (Sheidow et al. 2001) used the neighborhood rating scale as a means to create neighborhood typologies. Three neighborhood types were defined and described in the following manner “inner-city without functioning

social processes...inner-city with functioning social processes... other urban communities [which were characterized by] lower crime rates, low concentrations of poverty, higher business investment, low concerns about safety, and low neighborhood organization” (Sheidow et al. 2001, pp. 351–352). These typologies did not account for differences in youth exposure to violence.

Some of the strengths of the neighborhood rating scale as a strategy for measuring neighborhood are (a) its use in creating neighborhood typologies in conjunction with census data, (b) its provision of a measure of the insider view or neighborhood as place, and (c) its adaptability for use with young people. While one of the strengths of rating scales is their adaptability for use with children, cautions related to the use of children as respondents have been suggested by Vandell and Posner (1999). Their research on after school arrangements demonstrates that child responses become more reliable as children age such that there are greater differences between parent and child responses when children are in the third grade as compared to child respondents in the fifth grade (Vandell and Posner 1999). However, the use of adult responses as a basis from which to assess the reliability of child responses is a matter of philosophical perspective. As Qvortrup (1990) notes there are historical and contemporary conditions that omit children from “social accounting” (p. 86). Granting child responses with the same power we grant to adult responses may be difficult to accept because “to liberate children conceptually, and thus to give voice to their specific life conditions, may in the long run challenge current political thinking about children and in this challenge our existing social order” (Qvortrup 1990, p. 87).

#### Structured and Unstructured Interviews

Neighborhood social networks, as well as other properties of the construct *neighborhood*, can also be measured via structured and unstructured interviews with residents. Perhaps, the most in depth measures of neighborhood within this category are represented by ethnographies, which on their own constitute a tradition within neighborhood research. Several of these are covered in this section. The strategies discussed here, like many of the other techniques reviewed thus far, also require a great deal of time and expense. Similar to the rating scales, these are measures of neighborhood as place and focus on social processes, physical conditions and resources. However, interview questions could also be utilized to assess the insider’s view of social and economic composition, though I have not found any such interview schedules in my search of the literature. Measures of neighborhood that arise from interviews with residents allow the researcher and practitioner to move more closely to the “insider’s” view of

neighborhood such that a fuller understanding of the abstract nature of the construct neighborhood is gained.

Measures such as these provide the researcher with great detail about neighborhood processes and meanings. However, they may not be entirely useful for those who aspire to find broad general conclusions about predicting neighborhood effects. In part, this is because the subjective nature of this type of measure presents a problem with internal validity when used as a predictor of self-reported outcomes (Evans 1999). In addition, subjective measures of neighborhood are known to have problems with convergent validity (Evans 1999; Evans and Tafalla 1987 as cited in Evans (1999)). However, measures of neighborhood as place, such as structured and unstructured interviews, do provide important and necessary data about residents' perceptions and meanings. This is demonstrated in the review of unstructured interview, structured interview, and ethnographic strategies discussed in this section.

Focus groups are a successful method for completing interviews with neighborhood residents. Figueira-McDonough (1998) provides an example in her study of the perceptions and experiences of young people ( $N = 44$ ; aged 14–18 years) living in “two poor inner-city neighborhoods (using census tracts as surrogates for neighborhoods) in Phoenix” (Figueira-McDonough 1998, p. 131). The focus group participants described their neighborhoods, compared them to other neighborhoods, and discussed whether or not they would move, if given the chance. The youths also responded to queries about the most difficult problems facing their neighborhoods, views on teen parenthood, school, and available adult role models (Figueira-McDonough 1998). By operationalizing neighborhood from the “insider's” perspective, Figueira-McDonough (1998) was able to decipher the meanings related to neighborhood experiences and demonstrate that some meanings and behaviors are simultaneously the result of structural constraints (drug dealing as a way to survive in an economically marginalized neighborhood) and normative or cultural neighborhood perspectives (drug dealing occurs because of outsider's who make the drugs available to dealers) (Figueira-McDonough 1998). More specifically, respondents in Figueira-McDonough's study state that structural conditions make it more profitable to sell drugs than to “have to walk [across town] for \$4.25 an hour and you're not getting anything out of it” (p. 139). At the same time, the respondents report a normative or cultural neighborhood view that absolves dealers or makes it okay to deal drugs because of some external reason for their existence, “I think what he means by drugs being brought in here... is... drugs are not made here, they are brought here illegally from Columbia on planes and ships... The fault is the government. They got satellites up in the sky to see what's going on in other countries but they can't see

who's bringing in the drugs? I know the people in my neighborhood don't own planes and ships... so how else is it going to get here?” (Figueira-McDonough 1998, p. 139).

Figueira-McDonough's results also indicate that the youth in her sample presented mixed views on presumed societal normative standards. That is, they aligned themselves with ideals such as the pursuit of education, but aspirations for this ideal were subverted by neighborhood experiences that represent hopelessness or a sense of being trapped (Figueira-McDonough 1998). For example, one of the youths noted, “...My mom, she works at the post office with just a high school diploma but now you can't work at the post office and get those same benefits with a high school diploma...,” while another youth stated, “The older people around where I live have good jobs... but the younger generation are all struggling and working at Taco Bell or something like that” (Figueira-McDonough 1998, p. 149). Ethnographic measures of neighborhood such as the one utilized in this study provide important “insider” information that can lead to more appropriate interventions. As Figueira-McDonough (1998) points out, “To be able to intervene successfully, one needs to be familiar with how actors perceive their environment and make sense of it” (p. 155).

In addition to the topics covered in Figueira-McDonough's (1998) interviews, Burton et al. (1997) suggest interview questions that can be utilized with children as a means to measure neighborhood social networks: “(a) Who would likely provide some form of assistance in a time of need, (b) with whom have the respondents discussed matters important to them, and (c) who does not live in the respondents' home, but to whom the respondents feel closest” (p. 141). Questions such as these could be presented during one-to-one interviews or in a focus group format.

While the preceding unstructured interview strategies account for important measures of neighborhood, ethnographies provide a rich account of neighborhood social processes and contexts. In fact, one of the current theories that inform some of the neighborhood effects research, social disorganization theory, was extended in part as a result of ethnographic and case studies of life in Chicago immigrant neighborhoods (see Shaw 1931; Shaw et al. 1938). Numerous others span the decades such as: Street Corner Society (Whyte 1943), Ain't no Makin' It (MacLeod 1987), There are no Children Here (Kotlowitz 1991), Teenage Wasteland (Gaines 1991) and Fathers in the Hood (Jarrett et al. 2002). Ethnographies and case studies, as measures of neighborhood, extend the “picture” of a neighborhood and the aspirations and end choices made by residents in a manner that is unparalleled by the other measures of neighborhood covered in this article. The following discussion of findings from MacLeod's (1987)

ethnography and Shaw's (1931) case study exemplify this point.

MacLeod (1987) provides an excellent description of neighborhood conditions and resources when he describes the housing project where he conducted his research and area around his university, which was not much farther than a mile from that of the housing projects. "Large oak trees, green yards, and impressive family homes give way to ramshackle tenement buildings and closely packed, triple-decker, wooden frame dwellings; ice cream parlors and bookshops are replaced gradually by pawn shops and liquor stores..." (MacLeod, p. 5). The descriptions of neighborhoods within "areas of delinquency" provided by Shaw (1931) and participants in his study, are not unlike MacLeod's. While Shaw's case study focuses on one individual, he provides excerpts from stories of other delinquent boys who resided in the same neighborhood as the main respondent. For example, one young man states, "...the streets of Chicago where I spent my early childhood were very poor and dirty like most of the slums are. The buildings...are in very poor condition. The alleys were unpaved and very sloppy and filled with trash" (p. 19). These same conditions and resources can be provided by examining rates and percentages from administrative data sources, such as social indicators or census data, however the narratives provided here, both from the insider's (young man in Shaw's case study) and outsider's (MacLeod's personal description) perspectives creates a fuller picture of the distinction between more and less affluent neighborhoods. Each type of depiction, the narrative and the quantitative, is equally important and decisions about which to utilize depend on the purposes of the researcher or practitioner.

Additionally, MacLeod (1987) demonstrates the importance of comprehending the insider's view or neighborhood as place when he points out that for those who do not experience the life of the neighborhood residents, the choices residents make can be seen as the result of lack of ambition, lack of aptitude, or even the social and economic isolation of the project itself while in contrast, to the residents "the situation is not so simple" (MacLeod 1987, p. 6). The lack of simplicity in the situation becomes clear as one develops an awareness of the manner in which members of two different cliques (studied by MacLeod) view their neighborhood and the broader world around them. For example, members of a mostly White clique of boys portray their view of the present (why be in school if one can make money) and future (having an address in their neighborhood makes it hard to get jobs because of what it symbolizes to employers and because of the neighborhood's social isolation) as quite hopeless. The following quotes from two of the boys expand this example, "the regular academics I didn't like because there was

a certain favoritism. By my junior year, I quit school. Went to work" (MacLeod 1987, p. 95); "Out here there's not an opportunity to make money. That's how you get into to stealin' and all that shit," and "Alright, to get a job, first of all, this is a handicap, out here. If you say you're from the projects or anywhere in this area, that can hurt you. Right off the bat: bad reputation" (MacLeod, p. 72). In contrast, members of the mostly African American clique of boys portray their assessment of the present (study hard and stay in school) and future (studying, staying in school, and seeking higher education brings positive rewards) as hopeful. These quotes exemplify this hopefulness, "...I know that I have to work hard in school. I mean, I want a good future. I don't wanna be nothing for the rest of my life" (MacLeod, p. 98); "It's not like if their rich they get picked (for a job); it's just mattered by the knowledge of their mind" (MacLeod, p. 80), and "I'll probably be having a good job on my hands, I think. Working in an office as an architect, y' know, with my own drawing board, doing my own stuff, or at least close to that" (MacLeod, p. 75). MacLeod (1987) points out that the difference between the attitudes of the members of each clique are difficult to explain "considering that both groups share neighbors and that the families of the boys have similar occupational histories..." (p. 81).

Shaw's (1931) work further demonstrates the complex social processes at work in a neighborhood and how that can lead to particular behaviors. The same young man who described the conditions in his neighborhood also stated,

"...the brothers and fathers went out to work and if it could not be found, they became gun men, not that they were looking for so called 'easy' ways to make a living, that often proves the hardest, but for the family's sake. Put yourself in their shoes. If the charity society turned you down, with the excuse that you were young and healthy but too lazy to find work, then you found yourself in a helpless condition" (p. 19).

This same young man further describes the extreme poverty of the neighborhood. He points out that many children turn to stealing (coal, food, items to sell) as a way to help their families and that this was, in fact, encouraged in various ways. For example,

"The junk yard dealers bought stolen junk from the boys and often encouraged boys to steal so they could buy the junk... Some of the money would go to the mothers and father of these children and so nine times out of ten they will encourage the child's mind to work for easy money" (p. 19)

The ethnography and case study, as exemplified here, provide a depth of insight that is absent from many of the other measures. Measures of neighborhood developed from

these research strategies provide an arena for exploring some of the inconclusive results that arise from studies that employ measures of neighborhood as environment. They also assist in considering the problems with efficacy that beset interventions that are developed without considering the “insider’s” view. For example, it would not be useful to develop recreational activities to keep children occupied and away from crime, if there were no structural strategies (e.g., economic development, job training) that provided broader opportunities for parents to financially support their families.

Finally, it is important to be clear that the strengths of these measures of neighborhood do not suggest that they alone can serve as the penultimate answer to the challenges of measuring neighborhood. Instead, the contrast between these measures and those that portray neighborhood as environment suggest that employing mixed measures of neighborhood in a single study has the potential for fruitful results. As Bryman (1992) states “Quantitative research is especially efficient at getting to the structural features of social life, while qualitative studies are usually stronger in terms of processual aspects. These strengths can be brought together in a single study” (p. 61).

Structured interview techniques for operationalizing neighborhood also provide important details about neighborhood experiences. Perhaps the most involved technique was presented by Hart (1979) in his study of children and neighborhoods in Vermont. Hart labeled this technique, “‘place expeditions’ [which were] led by the children with their own home as the starting point” (p. 160). Moore (1986) utilized a similar technique with children residing in neighborhoods around London and Bryant (1985) employed what she called the “Neighborhood Walk” in her study of children’s sources of social support and neighborhood in northern California. While the participants in Hart’s and Bryant’s studies resided in less urban areas, the children in Moore’s study lived in city neighborhoods. This range attests to the ability of this technique to capture both rural and urban children’s views of neighborhood. Bryant, who cites both Hart and Moore in her work, provides a succinct and detailed description of this strategy; therefore, I rely on that as an example of this structured interview technique.

The neighborhood walk is a strategy that provides an opportunity for children in middle childhood to voice their lived experiences of the neighborhoods where they reside. The technique requires the researcher to “take a walk” in the neighborhood with the child as he or she describes her or his, “access to, interaction with, and use of (a) [self] (i.e., intrapersonal sources of support), (b) friends and relatives (i.e., others as resources), and (c) recreational facilities (i.e., environmental sources of support) in [her or his community]” (Bryant 1985, p. 14).

Burton et al. (1997) note that the Neighborhood Walk provides the researcher with a method for assessing the place of social networks in the lives of developing children. One of the discoveries made from the use of this technique is that neighborhood social networks that are important for children’s development include: other individuals as resources, intrapersonal sources of support, and environmental sources of support such as “places to get off to by one self” (Bryant 1985). These results not only support the importance of neighborhood for the developing child, but also demonstrate the importance of children’s voices in measures of neighborhood.

The Neighborhood Walk as a measurement strategy is expensive and time consuming. However, it is feasible that in the absence of the necessary resources, perception of neighborhood networks and uses of neighborhood environment could be measured via open-ended questions related to intrapersonal, interpersonal, and environmental sources of support within in the neighborhood as noted by Bryant (1985). However, as Hart (1979) points out, there are differences in interview methods that allow children to walk through the neighborhood with the researcher or practitioner and those in which the child responds to open-ended interview questions in an office or school setting. Hart notes that younger children had a more limited recall of favorite places during the traditional interview. However, “in contrast... [he]... was never faced with this problem on the place expedition, which suggests that, either, the interviews were relatively boring or the children found it difficult to return mentally to their everyday out-of-school environment” (p. 160).

One might consider, Community Asset Mapping (Kretzmann and McKnight 1993; McKnight and Kretzmann 1990) a version of the Neighborhood Walk that includes adult as well as child and youth participants. The strategy of Community Asset Mapping, which employs neighborhood residents and others in the mapping neighborhood capacities, provides important information that informs community-based practitioners as well as the neighborhood residents in the development of neighborhood change strategies that build on existing strengths. Asset mapping, which thoroughly examines community capacities from individuals to local businesses and organizations to resources outside of the neighborhood (Kretzmann and McKnight 1993) allows for a deeper measure of neighborhood than the neighborhood walk. It also serves as a foundation for community action and may be very useful in community based participatory action research. It is important to note here, that many of the measures described in this article could be employed in participatory action research methodology depending on the research questions that emerge from the collaboration between the researcher and the community members. In

fact, Israel et al. (1998) point out that the more closely the community based researcher works with community members, the more likely that the two entities will develop instruments or measures that meet the cultural identity(ies) of the community.

In addition, measures of neighborhood developed from asset mapping provide a more in depth view of community context such that they allow the researcher or practitioner to assess some of the contextual components highlighted by Shinn and Toohey (2003). For example, asset mapping provides data that lends itself to understanding the transactional nature of individuals within the context of their neighborhood and broader community. Such data allow for residents and community practitioners to build interventions in which individuals act on the neighborhood context and external resources as much as the neighborhood has the capacity to act on individuals. The asset mapping technique uncovers both bonding and bridging social capital and can result in endeavors that capitalize on one, the other, or both. Shinn and Toohey (2003) note the deficit that has occurred because of over emphasis on measuring individual characteristics at the expense of “assessing the contexts of human behavior or transactions between people and contexts” (p. 446). Asset mapping with its emphasis on the transactions between people and their neighborhood contexts could assist in remedying this deficit. This is especially true in the community oriented human services practice arena where the use of asset mapping is most prevalent. I am unaware of research studies that have employed asset mapping as a method of measuring neighborhood, but I suspect that such an endeavor, if linked to outcome measures of human behavior, would expand our understanding of person-neighborhood transactions. This method’s emphasis on measuring community context has the potential to reduce context minimization (Shinn and Toohey 2003) and result not only in stronger research, but theory as well.

The measures of neighborhood presented in the next section represent responses to open-ended questions that encompass some of the categories suggested by the Neighborhood Walk. As with all of the measurement strategies presented thus far, structured and unstructured interview techniques have their challenges. These challenges are similar to other more subjective techniques for measuring neighborhood as place and are more fully discussed in the next couple of sections.

### Written Descriptions

Another means for measuring neighborhood, which has been utilized with children, is journal entries or other writings about neighborhood environments and experiences. These measures result in renderings of neighbor-

hood as place and tend to focus on neighborhood social processes, physical conditions and resources. Depending on the questions, these measures could also be utilized to assess the insider’s view of social and economic composition. These types of measures can be subjected to qualitative analysis (Nicotera 2003, 2004, 2005) or they can be quantified (Sutton and De Bruin-Parecki under review).

Sutton and Dubruin-Parecki (under review) provide an example of a quantitative analysis of written work as a measure of neighborhood. These researchers created two measures from an analysis of two essays written by 4th and 5th grade students ( $n = 31$ ) about their neighborhoods of residence. The essays were written in response a request to (a) “write a story about a walk through your neighborhood” and (b) make a TV program about your neighborhood.” The analysis resulted in one measure titled “experience of place” and another labeled, “social selves.” These two measures include variables that fall within the physical composition/resources and the social processes categories in Table 1. The experience of place measure was created from the count of phrases in the respondents’ written work that indicated either a positive or negative characterization of a place or person/animal (e.g., people being active, people engaged in criminal behavior, a place noted as clean, safe, source of pride, a place noted as threatening, dirty, boring) and the overall attitude presented in the essay (assessed on a five point scale 1 = very negative, e.g., an essay that was very gloomy throughout to 5 = very positive, e.g., an essay that was optimistic throughout). The social selves measure was created from phrase counts of references to specific types of social behavior on the part of either the writer or any other person represented in the essay (e.g., helping, giving, expressing mean spiritedness, violence, being able to overcome, succeed, powerlessness, privacy, spacious surroundings, lack of privacy, crowded conditions).

Nicotera (2003, 2004, 2005) performed a qualitative analysis of the written work of 4th and 5th grade students ( $n = 59$ ) who responded to open-ended questions about their neighborhoods’ of residence. The children were asked about places they like and dislike and neighbors they know who help them out. A constant comparative analysis (Lincoln and Guba 1985) of the written responses resulted in nine dimensions of the construct *neighborhood*. These include: competence, support, the feel of the neighborhood, activities, resources, the built environment, the natural environment, people I know, and people in my neighborhood (Nicotera 2003, 2004, 2005). The competence dimension represents children’s experiences with neighbors that lead to the development of a skill such as riding a bike, working a computer, or babysitting. This differs from support which denotes children’s experiences of neighbors



who cheer them up when they are sad or who drive them to the library.

The feel of the neighborhood portrays the myriad emotions children express as they write about what they like and dislike in their neighborhoods. These range from “fun” to “scary” to “dangerous” with a preponderance of the emotions bearing a negative valence. The activities dimension is purely related to the things that children do in their neighborhoods of residence, from watching TV at home to going to the store to playing out of doors. The resource dimension reflects the neighborhood elements favored by the children. These include parks, fields, schools, video stores, and community centers. Resources differs from the built environment in that the built dimension of neighborhood encompasses all the built components noted in the children’s writing regardless of their positive or negative opinions about them. This is true for the natural environment as well. These two dimensions include items such as bars, fire stations, churches, forests, fields, and yards.

The “people I know,” is a dimension that depicts the neighbors that the children in the sample actually know something about. The knowledge that the children have about neighbors varies from knowing where a neighbor works to knowing that a neighbor likes chocolate. This dimension differs from the final one, “the people in my neighborhood,” in that this final dimension includes any person the children named, from “drug dealers” to “mean ladies.” The dimensions provide insight into how the children in the sample perceive and utilize their neighborhoods of residence. They demonstrate the richness of the construct neighborhood that is missed with the more objective measures such as census data. In fact, Nicotera (2003, 2004) employed census data in conjunction with the measure just described. Her results indicate a discrepancy between the expected qualities of neighborhood as measured by census data and predicted by social disorganization theory (Shaw and McKay 1942; Sampson and Groves 1989; Sampson and Wilson 1995) and the qualities of neighborhood as depicted from the children’s written work.

Both of the measures just presented require a great deal of researcher time. While they provide intimate detail about children’s perceptions and experiences of the physical and social aspects of *neighborhood*, the purposes of these two studies did not involve assessment of developmental outcomes. Therefore, it is uncertain if the measures would be viable for determining neighborhood effects. Research that examines this uncertainty is called for as a means to expand our understanding of the viable methods for measuring neighborhood in the hopes of comprehending the manner in which it influences developmental outcomes. However, if measures of neighborhood as place are utilized as predictors of outcomes, then problems of

internal validity are likely to be present. This problem can be reduced by utilizing external measures of individual outcomes or well-being as opposed to self-reports.

Neighborhood effects research that assesses the social organization, social cohesion, and resident perceptions of neighborhood via measures such as written work, structured and unstructured interviews, and neighborhood rating scales, may help to remedy some of the issues raised by Tienda (1991). She points out the importance of uncovering the social processes at work in the transmission of neighborhood effects and notes that there is a lack of “valid empirical measures of diverse transmission mechanisms” (Tienda 1991, p. 249). She lists some of the problems that result from measures that do not take transmission processes into account. One of these is that proximity does not necessarily mean social interaction. Hence, one might infer that neighborhoods with high percentages of gangs are germane to children’s entry into delinquent behavior, that there is a socialization process between gang members and other children and youth in the neighborhood (Tienda 1991). However, as Tienda (1991) points out, both gang involvement and delinquency issues could be related to another issue such as lack of accessible activities (resource stocks) for youth. She states that measures of direct social interaction and social networks such as those discussed in the preceding three sections, would illuminate the actual processes through which neighborhoods affect individual outcomes (Tienda 1991).

### Photographs

In addition to the measurement techniques covered thus far, some researchers have employed a technique for measuring neighborhood that requires residents to take photographs within their neighborhoods of residence. Schiavo (1988) presents an example of this technique which he employed with children and youth. A more contemporary method for the use of resident taken photos, photovoice, is also discussed in this section. In addition, researcher generated photos have been used as a means to measure neighborhood green spaces in an effort to examine the influence of outdoor play areas on play activities (Taylor et al. 1998). Depending on the method employed, these measures could represent neighborhood as place (resident taken and interpreted photos) or neighborhood as environment (researcher taken and interpreted photos). As evidenced in the examples that follow, photos and interpretation could focus on neighborhood social processes, physical conditions and/or resources.

Schiavo (1988) employed photographs as a measure of neighborhood. His goal was to understand how children’s assessment of their suburban neighborhoods differed from that of adolescents. The 59 children and youth in his

sample took 24 exposures of “any place in the home or neighborhood that’s important to you, any place you care about [inside or outside]” (Schiavo 1988, p. 5). The resulting photographs included: natural areas, streets and cul de sacs, elementary schools, homes of friends, athletic facilities, stores and businesses, libraries, and neighbors’ houses. Respondents described the neighborhoods in terms of number of peers available for play, absence of traffic, facility of access to movie theatres, malls, and the roadways to get to them. One of the pertinent age difference findings is that the adolescents described the use of two neighborhoods, one of residence and one of sociality. The latter type of neighborhood became more relevant as the youths increased in age (Schiavo 1988). This information suggests that neighborhood effects researchers with an interest in adolescence measure both types of neighborhoods.

Photographs have also been employed within a community based participatory action research methodology via “photovoice” (Stack et al. 2003; Wang 1999; Wang and Burris 1997; Wang et al. 2004). Wang et al. (2004) describe the technique in the following way, “Using photovoice methodology, participants allow their photographs to raise questions, ‘Why does this situation exist? Do we want to change it, and if so, how?’ By documenting their own worlds, and critically discussing with policy makers the images they produce, community people can initiate grassroots change” (p. 911). The method requires more than handing cameras to participants as it suggests that participants be trained in the use of cameras and picture taking as well as guided in discussions of “power, ethics, and the use of cameras” (Wang et al. 2004, p. 912). Once the photos are developed participants write a narrative about their photos in response to the following questions, “What do you see here? What is really happening? How does this relate to our lives? Why does this problem or strength exist? What can we do about it?” (Wang et al. 2004, p. 912). Once the narratives are complete participants share them and their photos with the group and through discussion themes, issues, and theories arise. After this process participants present their results to policy makers, community leaders, the media, and others.

In contrast to the examples just described that employ photographs to measure neighborhood as place, Taylor et al. (1998) employed researcher created aerial photographs to measure vegetation in inner city neighborhoods. The absence of the neighborhood residents’ voices in the depiction of play spaces and patterns renders this a measure of neighborhood as “environment.” The photographs were rated for levels of vegetation by five researchers who scored them “on a 5-point scale (1 = very little or no vegetation, 5 = a relatively high level of vegetation)” (Taylor et al. 1998, p. 9). The inter-rater reliability was .94.

Their purpose was to examine the relationship between play patterns of children and neighborhood vegetation.

Their results indicate that more barren neighborhood areas were associated with less creative play patterns and less access to adults during play. Hence, we may speculate that the child’s version of neighborhood social organization and social networks may be influenced by physical components of a neighborhood, such as levels of vegetation. Interestingly, in contrast to the other measures of neighborhood as environment, such as census data and windshield surveys, when utilized in the way just described, this measure of neighborhood as environment, results in a focus on neighborhood social processes and physical conditions. This indicates that there is no simple manner in which the researcher or practitioner can decide about the type of measure to utilize. As noted earlier, one must consider which measure is appropriate for the problem under study and the relationships he or she is examining (Garner and Raudenbush 1991).

While the use of aerial photography as a method for measuring neighborhood may be viewed as costly and time consuming, it is possible to obtain existing photos. For example, one can find numerous options for aerial photographs by searching the internet. The sources I found indicate some cost, but they are well below what it would cost to hire trained photographers and equipment (e.g., a helicopter). One source of aerial photos can be found at [www.facilitiesmap.com/atlas.cfm](http://www.facilitiesmap.com/atlas.cfm). One can search for an address and then view an aerial photo that can zoom in on that particular home or business, with other buildings and greenery in site. The trial of this source is free, but to view the photos without the watermarks one needs to subscribe (approximately \$30.00 per month or \$250.00 per year). While the greenery around homes and businesses is visible in the photos this view may not be sufficient for researchers who specifically want to examine the relationship between green spaces and neighborhood social organization and social networks.

In addition to cost and time, these more subjective measures of neighborhood as place (e.g., photographs, written work, structured or unstructured interviews, and neighborhood rating scales) present methodological problems. For example, Evans (1999) points out the spuriousness that can result from the way in which an individual’s subjective experience of neighborhood is influenced by her or his personality characteristics and mood at the time of data collection. Of course one could argue that indeed this is exactly what one hopes to assess with measures of neighborhood as place because both personality and mood are inseparable from one’s neighborhood experiences. Personality and mood help to shape the meanings one makes and the manner in which one either incorporates or rejects those meanings becomes a component of self

identity and developmental outcomes. In fact, Wachs (1999) states that “What may be critical in determining individual behavior patterns may be how the individual perceives the nature of his or her environment rather than the actual environment itself” (p. 366). Nevertheless, issues of spuriousness as well as the other challenges discussed in the previous four sections represent concerns related to the use of techniques for measuring neighborhood as place. The final strategy, drawings, presented in the next section is also subject to these challenges as well.

### Drawings

Similar to photographs, drawings, such as cognitive maps, can be utilized as measures of neighborhood as environment or place depending on the method of data collection and analysis. The first measure described here represents drawings as a representation of neighborhood as environment because the voices of the children who created the drawings are absent. The second method that employs drawing, the cognitive map, has been utilized in conjunction with interviews (Ladd 1970; Lynch 1977; Maurer and Baxter 1972, Parameswaran 2003; Ramadier and Moser 1998).

Lewis and Osofsky (1997) employed drawings as a means to measure *neighborhood* as it pertains to neighborhood violence. The drawings were created in response to two statements: “Draw a picture of your neighborhood” and “Draw a picture of what goes on in your neighborhood” (Lewis et al. 1997, p. 282). The drawings were interpreted using a non-clinical format called the Child and Violence Neighborhood Coding System (Lewis et al. 1994). The system encompasses 66 elements that coincide with five categories “(a) community violence depicted, (b) the gender of the victim and aggressor, (c) the affect of the victim, aggressor, and bystanders, (d) the neighborhood context, and (e) the hopeful elements of the drawings. Interrater reliability was achieved on each of the categories with percent agreement ranging from 80% to 98% ( $\kappa = .8$ )” (Lewis et al. 1997, p. 282). This system is noted to provide the researcher with frequencies of components of violence in drawings by children who live in neighborhoods known to have high levels of violence (Lewis et al. 1997). Children in the study also responded to questionnaires that assessed levels of neighborhood trust and safety as well as levels of hopelessness (Lewis et al. 1997). One of the study outcomes demonstrates that children depict less violence when asked to draw a picture of their neighborhood as opposed to drawing a picture of what goes on in their neighborhood. This result suggests that measures of neighborhood that rely on drawings in response to a specific instruction are very sensitive to word choice in giving that instruction. While this coding system

is one of the few non-clinical methods for analyzing drawings, it is unclear if and how the coding system will work when levels of neighborhood violence are uncertain or unknown. However, the data collection, which was completed with children in classroom settings, is cost and time efficient.

Cognitive maps have been utilized as measures of neighborhood with both adults and children. Lynch’s (1960) work is considered to be seminal in the multidisciplinary arena of cognitive mapping (Kitchin and Freundschuh 2000) and his influence is evident in contemporary projects (e.g., Chawla 2002; Driskell 2002). In his early work Lynch (1960) notes that the type of analysis he discusses “limits itself to the effects of physical, perceptible objects” (p. 46), while he also acknowledges that “there are other influences on imageability, such as the social meaning of an area, its function, its history, or even its name” (p. 46). In his later work, Lynch (1977) applied cognitive mapping with children in Poland, Argentina, Mexico, and Australia. The goal of his research was “to help document the human costs and benefits of economic development, by showing how the child’s use and perception of the resulting micro-environment affects his [sic] life... [in order to] suggest public policies for improving the spatial environment” (p. 1). Lynch (1977) provides detailed instructions for the interview and observation process. For the purposes of this review his directions to children for the map drawing are: (a) “Please draw me map of the area you live in, and show me whatever you think is important in it” (p. 89) and optional instructions for drawing a map of the whole city and the child’s home respectively, (b) “Please draw me a map of the entire city and the whole region around it, as far as you know it. Show me all the important places in it, how to get around, the places you have been to, and where your own area is,” and (c) “Please draw me a plan of your own home, your building, your yard. Show me the places you use most” (p. 91). The varied instructions demonstrate the flexibility for use with both younger and older children who may have varying comprehension of the home versus to whole city. In fact, Lynch suggests that children who are not able to draw a map be given the opportunity to describe the area to the interviewer and provide simple drawings to enhance the verbal description.

Lynch’s (1960, 1977) influence on contemporary research with cognitive maps is evidenced in the following examples, even though the research questions differ from those of set forth by Lynch (1977). Parameswaran (2003) employed the cognitive map measure with children ages 6–12 years. Specific instructions provided to the children in the study were to “draw a map of the neighborhood surrounding their school. [They were asked to] include their school in the layout as well as roads and physical

structures around the school. They were told that it was very important to label the items in the map unless they did not know or remember the name of the structure” (Parameswaran, p. 410). Ramadier and Moser (1998) provided more detailed instructions to their adult respondents by asking them to draw a map of the city that included all the elements known to them. Elements of the city was defined as “material and permanent particularities... exclude[ing] all physical particularities like noise, smell, etc.” (Ramadier and Moser 1998, p. 310).

### Mixed Measure Constructions

The measures of neighborhood have been discussed this far, for the most part, as stand alone measures in studies of neighborhood context. However, employing measures that account for both neighborhood structural characteristics and social processes in the same study should provide the best of both ends of the environment–place continuum.

This mix of measures can entail specifically employing quantitative and qualitative measures of neighborhood in a single mixed methods research study. However, this is not always the case as some studies utilize all quantitative measures of neighborhood that provide data on varying components of the construct neighborhood. Studies that have taken a mixed methods or mixed measures route to measuring the construct neighborhood have proven fruitful (Bass and Lambert 2004; Korbin et al. 1998; Cunningham 1999; Kingston et al. 1999; Perkins and Taylor 1996; Seidman et al. 1998). In this section, I review the measures employed in a couple of these studies.

Perkins and Taylor (1996) examined the relationship between community disorder and fear of crime. Their measures of neighborhood included the Block Environmental Inventory (Perkins et al. 1990, 1992); a survey of neighborhood residents; and newspaper articles. For the purposes of this review I will describe the three measures and then discuss them within the environment–place continuum and how the combination of them remedies some of the challenges described earlier in this article.

The Block Environment Inventory (BEI) is conducted by trained raters who gather the data as they walk a predetermined section of a neighborhood. The observers rate the neighborhood on several indices that include: number of people out of doors and their general activities; abandoned cars and graffiti; playgrounds and parks; general maintenance of the area, and numbers of occupied housing units and non-residential units which are all rated for issues of litter, vandalism, and maintenance. The second measure, a resident survey, was administered via telephone or in person. The survey provided residents the opportunity to share their perceptions of the quality of the social and physical environment of the neighborhood, level of social

support resources, responses to crime, and the impact of consistent fear on their mental health. The third measure was developed from articles in two local newspapers. The focus of this measure was an assessment of “the potential fear related influence on survey respondents of local crime and disorder news coverage” about the neighborhood under study or those near by. The newspaper measure was employed in this study as a means to account for threats to statistical conclusion validity (history), however it serves as a creative example of measuring neighborhood that could be applied for other purposes.

The three measures employed by Perkins and Taylor (1996) demonstrate a creative and useful means for measuring neighborhood so as to account for its multi-dimensionality. The Block Environment Inventory (BEI) is a type of wind shield survey, as discussed previously in this article. Such measures are closer to the environment end of the environment–place continuum and assist in remedying issues presented by data sources such as the census or crime statistics. The resident survey measure moves closer to constructions of neighborhood as place. Its utilization in conjunction with the BEI provides for checks and balances that are required to handle the use of aggregated individual responses as a proxy for neighborhood, as discussed earlier in this article.

Finally, the measure created from media articles creates an excellent back drop to the other two measures. This third measure could be viewed as sitting at the intersection between environment and place as it has been noted that residents of neighborhoods, particularly low income and poverty neighborhoods, tend to internalize the media stories about their neighborhoods. For example, Halpern (1995) notes, “ever since the 1950s the press, radio, and television have not hesitated to remind Cabrini Green [a former Chicago public housing project] residents that the place they call home is a slum... the mass media has shaped the image of the Cabrini Green neighborhood as much as the residents themselves. By the 1960s the residents of the project neighborhoods were internalizing what the media said about them and were belittling themselves” (p. 79). In this light, the newspaper measure, while produced from the renderings of outsiders (news journalists), can be viewed as having the potential to interact with the views developed by the insiders or neighborhood residents, hence, can be viewed as having the potential to overlap with environment and place.

Kingston et al. (1999) present a different, but equally informing example of combined measures of the construct neighborhood. The researchers explored whether or not sense of community is relevant at the level of neighborhood. They created several measures of neighborhood from an existing data source. One of the unique pieces of this study is that it suggests a more psychological construction

of neighborhood, as compared to the others discussed in this article, via the sense of community measures. The authors (Kingston et al. 1999) employed the existing data to develop several scales to measure the following elements of sense of community: “(a) perceptions of neighborhood climate (i.e., a feeling of membership); (b) perceptions of residents’ control over neighborhood conditions (i.e., influence); and (c) neighboring behavior (i.e., social interaction. In addition, a measure of participation in community organizations was included” (p. 686).

Two of the scales listed above are deemed by the researchers to measure “neighborhood-related attitudes.” These were labeled the Perception of Neighborhood Climate Scale (e.g., a place I feel at home, a place where people feel a sense of community togetherness) and the Perception of the Ability of Neighborhood Residents to Influence Neighborhood Conditions (e.g., how much control can neighborhood residents have if they work together on issues such as crime). The other two scales were viewed as representing “neighborhood-related behaviors.” The first is titled the Self-Reported Neighboring Behavior Scale (residents report the number of neighbors they have associated with in terms of neighboring behaviors) and the second measure is called the Self-Reported Participation in Community Organizations (how many hours the respondent serves in volunteer work for community activities) (Kingston et al. 1999).

In addition to the scales just noted, the authors measured neighborhood characteristics in two ways. First by noting whether each neighborhood had an existing association specific to concerns about neighborhood conditions. Neighborhoods were viewed as having such an association if six specific conditions were met. These conditions are that the association is: (a) known by some department within the city government that handles grass roots groups; (b) known by at least 10% of the residents who were part of the study, (c) is concerned with neighborhood conditions beyond issues of crime, (d) covers a jurisdiction for a geographic area, (e) primarily volunteer, and (f) small in number of members and budget (Kingston et al. 1999).

The second measure of neighborhood characteristics was gathered from city and state government agencies such that the neighborhoods in the study were rated on a range from 0 to 3 in terms of “boundaries (the neighborhood should be bounded by arterial streets or other boundaries that would discourage through traffic in the neighborhood); open spaces (the neighborhood should contain parks or other recreational spaces, and local shops (one of more local shopping districts should be present in the neighborhood)” (Kingston et al. 1999, p. 687). The authors imply, but do not directly state, that lower ratings coincide with less of the characteristics just described.

The measures of neighborhood employed in this study clearly speak to the environment–place continuum. The neighborhood-related attitude scales and the neighborhood-related behavior scales provide quantitative details on neighborhood social processes and therefore serve as measures of neighborhood as place. While it would be easy to relegate measures of neighborhood social processes to those that employ qualitative measures, these scales demonstrate that this is not always the case. Additionally, the fact that the scales were developed from existing data, suggest that neighborhood social processes can be examined quantitatively in large sample size research studies. Measures such as these could remedy the issues of time and expense related to the collection, transcription, and analysis of qualitative data. The measures of neighborhood characteristics represent the environment end of the continuum in that neither one can attest to how neighborhood residents perceive and experience the characteristics for which they account.

The end result of use of mixed measures leads not only to new knowledge about methods for measuring neighborhood, but also to important insights about neighborhoods and human behavior that is useful to practitioners. As an illustration, I report some of the findings from each of the studies reviewed in this section. The results of Perkins and Taylor’s (1996) study indicate that residents “who were most fearful not only perceived more disorder on the block than their neighbors; they also lived on properties with objectively more physical disorder (litter, graffiti, dilapidation) than was observed on their neighbor’s homes” (p. 87). Not only does this finding represent a convergence between resident perceptions and observer’s ratings, it is useful for practitioners in their assessments and interventions with clients. It suggests that practitioners be attuned to how neighborhood context can contribute to psychological issues such as “fears” and that contextual causes of fear, need to be assessed. If such fears are related, even in part, to the client’s neighborhood context then it would behoove the practitioner to consider how changes to a client’s property or broader neighborhood efforts to change signs of disorder could serve as an appropriate intervention.

Kingston et al. (1999) study also provides important information for the practitioner, specifically, those who serve at the neighborhood level. For example, they note that while the amount of variance is small, their findings “support the idea that urban neighborhoods may act as a locus of at least some aspects of a sense of community” (p. 690). More specifically, the researchers state that “ratings of neighborhood climate, perceptions of control over neighborhood conditions, neighboring behavior, and participation in community organizations were more similar among people living in the same neighborhood than among

people living in different neighborhoods” (p. 690). This finding suggests that the neighborhood level practitioner be aware of neighborhood boundaries and how organizing where boundaries overlap may create challenges due to the potential for differing rates of sense of community among residents in the overlapping neighborhoods.

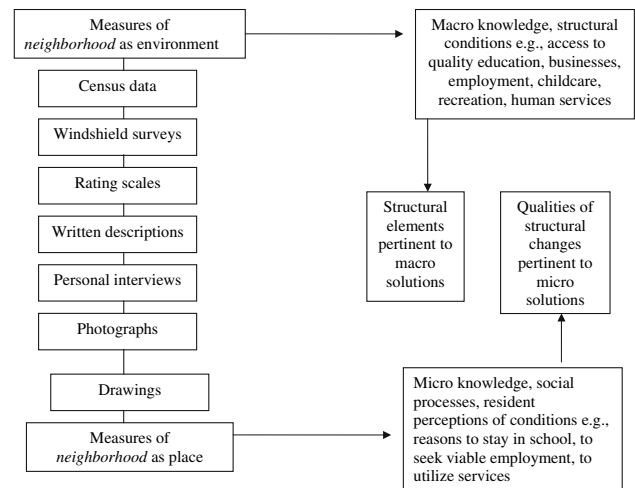
## Conclusion

This article discussed *neighborhood* from both a conceptual and operational approach. When *neighborhood* is considered from a conceptual viewpoint we are able to acknowledge both its objective and subjective qualities. In this conceptual light both qualities can be easily intertwined within their transactional relationship. As researchers and practitioners we can use this conceptual focus to comprehend the complexity of *neighborhood* in its fullest sense as both an environment and a place.

However, as we move toward measuring the neighborhood for research or to assess for the creation of intervention activities, we are caught in a web of decisions and constraints that influence the choice of measures. As Linney (2000) points out, we need to work toward operationalizing context such that it serves as more than a backdrop to the people we study or serve. Linney further notes the need for our models of context to “(1) address the complexity of contextual variation, (2) adequately recognize the multifaceted nature of context, (3) assess change over time, and (4) assess the interdependence of person and context” (p.658).

The review of measures presented in this article indicates the wide variety from which we can choose. The complexity of choosing the proper measure cannot, however, be overlooked as each measure is likely to be associated with different outcomes, strengths, and challenges. In addition, Moos (2003) points out, in reference to social context, that “we need to be catholic in our tastes for multiple methods and measures... because multiple methods assess multiple realities” (p. 9). The measures of *neighborhood* reviewed in this article and the unique perspective provided by each measure clearly echoes Moos’ (2003) statement. In reality, however, it is very unlikely that any one practitioner or researcher has the massive resources to assess *neighborhood* on all levels. In addition, the theory and research that guide us do not always provide the details we need to make decisions about which measure(s) to employ.

Given this conundrum I suggest that we employ the conceptual environment–place framework as a means to consider this choice dilemma (see Fig. 1). Within this framework, each choice also requires the full awareness of a measure’s methodological limitations and its capacity as



**Fig. 1** Environment–place framework and bridge

a tool for answering research or intervention questions. The reader is asked to bear this and the following notes in mind when considering the environment–place framework as an additional guideline for choosing a measure.

As presented in this review, measures of neighborhood as environment, such as census data, social indicator data, and wind shield surveys, are most often associated with large sample, quantitative research that leads to prediction of developmental outcomes and theory testing. Use of such measures meets the goal of generalizability to populations beyond study samples which can lead to the development of policy level interventions often aimed at changing individuals (Roosa et al. 2003). Additionally, use of such measures to test theory (e.g., see Sampson and Groves 1989) can lead to stronger models for comprehending neighborhood influences on developmental outcomes and this can also lead to the development of interventions which are quite often also aimed at individual change efforts. The problem with such interventions, however, is that they are not known to create a large influence on changing the contextual problems that create the risk status of the people at whom they are aimed (Roosa et al. 2003). In effect, challenges occur when neighborhood measures which assess structural neighborhood wide problems are used to predict and create interventions for individual level outcomes and changes. Hence, measures of neighborhood as environment might be best when the researcher or practitioner is interested in neighborhood level outcomes or interventions aimed at changing actual structures, such as access to transportation, businesses, or playgrounds.

The place aspect of the environment–place framework provides another direction for choosing neighborhood measures. Measures of neighborhood as place, such as neighborhood rating scales and residents’ written descriptions, are associated with both large sample quantitative

studies and smaller sample qualitative studies. These types of measures allow the researcher or the practitioner examine the manner in which social processes and personal perceptions influence individual developmental outcomes and use of neighborhoods. Other measures of neighborhood as place such as photovoice and neighborhood expeditions (e.g., Hart 1979; Kretzman and McKnight 1993; Wang and Burris 1997) are most often associated with qualitative methodologies such as ethnographies and community based participatory action research. Use of such measures meets the goal of “go[ing] inside people’s heads and gain[ing] an understanding of how they define, perceive, and organize the physical settings in which they participate” (Small and Supple 2001, p. 163). In essence measures of neighborhood as place allow us to open up the black box of neighborhood processes. While, these measures do not have the power to predict generalizable developmental outcomes, they are more closely associated with what neighborhood residents view as the strengths and challenges of their neighborhood contexts. Results such as these may be most fruitful for practitioners who serve in neighborhoods. These kind of results could be used to build both individual and neighborhood level interventions. The power of such interventions is that they come from the “bottom up” as opposed to the “top down.” Such interventions, at first are peculiar to a particular neighborhood and its residents. Over time, however, as practitioners and researchers gain more insights from the application of measures of neighborhood as place, it is feasible that we could arrive at skeleton models for the development of more wide spread interventions. The key, however, is that measures of neighborhood as place are most useful and important for comprehending the lived experiences of a set of neighborhood residents and it is not necessary that they lead to predicting generalizable developmental outcomes. As Korbin (2001) notes, “the meanings that individuals take from the context are integral to understanding human development and behavior” (p. 80).

If we reflect again on the environment–place framework in conjunction with Moos’ (2003) dictum about the use of multiple measures and methods, it becomes clear that we need to create a bridge between these seemingly divergent ways of viewing *neighborhood* and the methods we use to measure it. It becomes important to increase the likelihood that researchers and practitioners do have opportunities to use “multiple measures and methods to measure multiple realities” (Moos 2003, p. 9). Such opportunities will provide more power to create change at both macro and micro-levels (see Fig. 1).

Evidence from neighborhood studies that employ measures of environment and link them to structural outcomes as opposed to individual outcomes provides the knowledge-base from which to create policies aimed at changing

the structural conditions in neighborhoods that can shape the perceptions of neighborhood residents as measured by neighborhood as place. Such evidence can be employed by practitioners and neighborhood residents in macro change efforts that require collaboration with entities such as city councils or community agencies. Interventions created from this combination of evidence have the capacity to be aimed at changing macro structures which can result in individuals having to access micro-solutions. For example, Spencer et al. (1997) suggest policy implications related to the results of their study which employed both census data and a wind shield survey. They point out that their findings related to homicide suggest the need for “alternative ways for teens to meet (such as midnight basketball and other available programs and services)... [and that their findings related to] housing quality suggests an enhanced role for community building programs such as Habitat for Humanity” (p. 162). The literature reviewed in this article supports the notion that macro changes such as better housing provided by Habitat for Humanity or community center programs that provide safe and supervised activities for teens have the potential to change the micro-experiences of neighborhood residents.

Another example of how interventions aimed at macro issues can end up creating micro changes for residents is provided by Figueira-McDonough’s (1998) ethnographic study. As discussed earlier in this article, the youth in her study indicated a belief in and values for education and employment. However, the youth also noted the absence of real opportunities to utilize their high school educations for viable employment. Results such as these could be bridged with evidence from studies that measure neighborhood as environment and provide data that confirms a structural lack of access and proximity to viable employment or access to higher education when a high school degree is not enough. Coupled together, the results of the ethnographic study and the results of the quantitative study could lead to macro changes (e.g., build up of business and employment opportunities within the proximity of a neighborhood) that would lend themselves to micro-solutions (e.g., meaningful reasons to stay in school and a belief that viable employment opportunities exist).

Hence, use of the environment–place framework to choose measures of *neighborhood* provides an opportunity to build a bridge between studies that employ measures of neighborhood as environment and measures of neighborhood as place. This is important because such studies provide the basis for understanding both the distal and proximal processes that shape developmental outcomes (Wachs 1999). As noted in the examples above, this bridge offers an opportunity to focus interventions in directions that will be most viable for creating lasting change at both macro and micro-levels.

## References

- Aaronson, D. (1997). Sibling estimates of neighborhood effects. In J. Brooks-Gunn, G. Duncan, & J. Aber (Eds.), *Neighborhood poverty Volume 2: Policy implications in studying neighborhoods* (pp. 80–93). New York: Russell Sage Foundation.
- Aber, M., & Nieto, M. (2000). Suggestions for the investigation of psychological wellness in the neighborhood context: Toward a pluralistic neighborhood theory. In D. Cicchetti, J. Rappaport, I. Sardler, & R. Weissberg (Eds.), *The promotion of wellness in children and adolescents* (pp. 185–219). Washington, DC: CWLA Press.
- Barker, R., & Wright, H. (1955). *Midwest and its children*. White Plains, NY: Row, Peterson and Company.
- Bass, J., & Lambert, S. (2004). Urban adolescents' perceptions of their neighborhoods: An examination of spatial dependence. *Journal of Community Psychology*, 32(3), 277–293.
- Berg, M., & Medrich, E. (1980). Children in four neighborhoods: The physical environment and its effect on play and play patterns. *Environment and Behavior*, 12(3), 320–348.
- Brodsky, A. (1996). Resilient single mothers in risky neighborhoods: Negative psychological sense of community. *Journal of Community Psychology*, 24(4), 347–363.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge: Harvard University Press.
- Bronfenbrenner, U. (1989). Ecological systems theory. In R. Vasta (Ed.), *Six theories of child development: Revised formulations and current issues* (pp. 185–246). Greenwich, CT: JAI Press.
- Brooks-Gunn, J., Duncan, G., & Aber, J. (1997). *Neighborhood poverty Volume 1: context and consequences for children*. New York: Russell Sage Foundation.
- Brooks-Gunn, J., Duncan, G., Klebanov, P. K., & Saland, N. (1993). Do neighborhoods influence child and adolescent development? *American Journal of Sociology*, 99(2), 353–395.
- Brown, B. (1999). Measuring the peer environment of American adolescents. In S. Freidman & T. Wachs (Eds.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 59–90). Washington, DC: American Psychological Association.
- Brown, B., Perkins, D., & Brown, G. (2004). Incivilities, place attachment, and crime: Block and individual effects. *Journal of Environmental Psychology*, 24(3), 359–371.
- Bryant, L. (1985). *The neighborhood walk: Sources of support in middle childhood*. Monographs for the Society of Child development, 50 (3 serial No. 210).
- Bryk, A., & Raudenbush, S. (1992). *Application of hierarchical linear models: Applications and data analysis methods*. Newbury Park, CA: Sage.
- Bryman, A. (1992). Quantitative and qualitative research: Further reflections on their integration. In J. Brannen (Ed.), *Mixing methods: Qualitative and quantitative research* (pp. 57–78). Sydney: Avebury.
- Burton, L. (1991). Caring for children: Drug shifts and their impact on families. *American Enterprise*, 2, 34–37.
- Burton, L., & Price-Spratlen, T. (1999). Through the eyes of children an ethnographic perspective on neighborhoods and child development. In A. S. Hasten (Ed.), *Cultural processes in child development* (pp. 77–96). Mahwah, NJ: Lawrence Erlbaum Associates.
- Burton, L., Price-Spratlen, T., & Spencer, M. (1997). On ways of thinking about measuring neighborhoods: Implications for studying context and development outcomes for children. In J. Brooks-Gunn, G. Duncan, & J. Aber (Eds.), *Neighborhood poverty: Vol. 2. Policy implications in studying neighborhoods* (pp. 132–144). New York: Russell Sage Foundation.
- Chaskin, R. J. (1995). *Defining neighborhoods: History, theory, and practice*. Chicago: The Chapin Hall Center for Children.
- Chawla, L. (2002). *Growing up in an urbanizing world*. London: Earthscan Publications.
- Childress, H. (1994). Place, narrative, and relationship: A new approach to place attachment. In A. Seidel (Ed.), *Banking on design? Proceedings of the twenty-fifth annual conference of the environmental design association* (pp. 55–61). Oklahoma City: Environmental Design Research Association.
- Coulton, C., Korbin, J., & Su, M. (1996). Measuring neighborhood context for young children in an urban area. *American Journal of Community Psychology*, 24(1), 5.
- Coulton, C., Korbin, J., Chan, T., & Su, M. (2001). Mapping residents' perceptions of neighborhood boundaries: A methodological note. *American Journal of Community Psychology*, 29(2), 371–383.
- Cunningham, M. (1999). African American adolescent males' perceptions of their community resources and constraints: A longitudinal analysis. *Journal of Community Psychology*, 27(5), 569–588.
- Dixon, J., & Durrheim, K. (2000). Displacing place identity: A discursive approach to locating self and other. *British Journal of Social Psychology*, 39, 27–44.
- Driskell, D. (2002). *Creating better cities with children and youth: A manual for participation*. London: Earthscan Publications Ltd.
- Duncan, G., & Raudenbush, S. (2001). Neighborhoods and adolescent development: How can we determine the links? In A. Booth & A. Crouter (Eds.), *Does it take a village? Community effects on children, adolescents, and families* (pp. 105–136). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Ellen, I. G., & Turner, M. A. (1997). Does neighborhood matter? Assessing recent evidence. *Housing Policy Debate*, 8(4), 833–866.
- Elliot, D., Huizinga, D., & Ageton, S. (1985). *Explaining delinquency and drug use*. Beverly Hills: Sage.
- Evans, G. (1999). Measurement of the physical environment as a stressor. In S. Freidman & T. Wachs (Eds.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 249–278). Washington, DC: American Psychological Association.
- Evans, G., & Tafalla, R. (1987). Measurement of environmental annoyance. In H. Koelega (Ed.), *Environmental annoyance: Characterization, measurement, and control* (pp. 11–28). Amsterdam: Elsevier.
- Figueira-McDonough, J. (1998). Environment and interpretation: Voices of young people in poor inner-city neighborhoods. *Youth and Society*, 30(2), 123–163.
- Forrest, R., & Kearns, A. (2001). Social cohesion: Social capital and the neighborhood. *Urban Studies*, 38(12), 2125–2143.
- Furstenberg, F., Cook, T., Eccles, J., Elder, G., & Sameroff, A. (1999). *Managing to make it: Urban families and adolescent success*. Chicago: University of Chicago Press.
- Furstenberg, F., & Hughes, M. (1997). The influence of neighborhoods on children's development: A theoretical perspective and a research agenda. In J. Brooks-Gunn, G. Duncan, & J. Aber (Eds.), *Neighborhood poverty Vol. 2: Policy implications in studying neighborhoods* (pp. 23–47). New York: Russell Sage Foundation.
- Gaines, D. (1991). *Teenage wasteland: Suburbia's dead end kids*. New York: Harper Perennial.
- Garner, C. L., & Raudenbush, C. L. (1991). Neighborhood effects on educational attainment: A multilevel analysis. *Sociology of Education*, 64, 251–262.



- Gephart, M. (1997). Neighborhoods and communities as contexts for development. In J. Brooks-Gunn, G. Duncan, & J. Aber, (Eds.), *Neighborhood poverty Vol. 1: Contexts and consequences for children* (pp. 1–43). New York: Russell Sage Foundation.
- Halpern, R. (1995). *Rebuilding the inner city: A history of neighborhood initiatives to address poverty in the United States*. New York: Columbia University Press.
- Hart, R. (1979). *Children's experience of place*. New York: Irvington Publishers.
- Herrenkohl, T., Hawkins, D., Abbot, R., Guo, J., & the Social Development Research Group. (2002). Correspondence between youth report and census measures of neighborhood context. *Journal of Community Psychology*, 30(3), 225–233.
- Israel, B., Schulz, A., Parker, E., & Becker, A. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health*, 19, 173–202.
- Jarrett, R., Roy, K., & Burton, L. (2002). Fathers in the hood: Insights from qualitative research in low-income African American men. In C. Tamis-LaMonda & N. Cabrera (Eds.), *Handbook of father involvement: Multidisciplinary perspectives* (pp. 211–248). Mahwah, NJ: Laurence Erlbaum Associates.
- Jencks, C., & Mayer, S. (1990). The social consequences of growing up in a poor neighborhood. In L. McGeary (Ed.), *Inner-city poverty in the United States* (pp. 111–186). Washington, DC: National Academy Press.
- Kemp, S. (2001). Environment through a gendered lens: From person-in-environment to woman-in-environment. *Affilia*, 16(1), 7–30.
- Kingston, S., Mitchell, R., Florin, P., & Stevenson, J. (1999). Sense of community in neighborhoods as a multi-level construct. *Journal of Community Psychology*, 27(26), 681–694.
- Kitchin, R., & Freundschuh, S. (2000). Cognitive mapping. In R. Kitchin & S. Freundschuh (Eds.), *Cognitive mapping: Past, present, and future* (pp. 1–8). New York: Routledge.
- Korbin, J. (2001). Context and meaning in neighborhoods studies of children and families. In A. Booth & A. Crouter (Eds.), *Does it take a village? Community effects on children, adolescents, and families* (pp. 79–86). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Korbin, J., Coulton, C., Chard, S., Platt-Houston, C., & Su, M. (1998). Impoverishment and child maltreatment in African American and European American neighborhoods. *Development and Psychopathology*, 10, 215–233.
- Kotlowitz, A. (1991). *There are no children here*. New York: Doubleday.
- Kretzman, J., & McKnight, J. (1993). *Building communities from the inside out: A path toward finding and mobilizing a community's assets*. Chicago, IL: ACTA Publications.
- Ladd, F. (1970). Black youths view of their environment: Neighborhood maps. *Environment and Behavior*, June, 74–79.
- Lareau, A. (2000). Social class and the daily lives of children: A study from the United States. *Childhood*, 7(2), 155–171.
- Lawton, M. (1999). Environmental taxonomy: Generalizations from research with older adults. In S. Freidman & T. Wachs (Eds.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 91–126). Washington, DC: American Psychological Association.
- Lee, B., & Campbell, K. (1997). Common ground? Urban neighborhoods as survey respondents see them. *Social Science Quarterly*, 78(4), 922–936.
- Levanthal, T., & Brooks-Gunn, J. (2000). The neighborhoods they live in: The effects of neighborhood residence on child and adolescent outcomes. *Psychological Bulletin*, 126(2), 309–337.
- Lewis, M., & Osofsky, J. (1997). Violent cities, violent streets: Children draw their neighborhoods. In J. Osofsky (Ed.), *Children in a violent society* (pp. 277–299). New York: Guilford Press.
- Lewis, M., Osofsky, J., & Moore, M. S. (1994). *Coding manual for drawings of children exposed to community violence*. Unpublished manuscript, Louisiana State University Medical Center, New Orleans, LA.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. Beverley Hills, CA: Sage Publications.
- Linney, J. (2000). Assessing ecological constructs and community context. In J. Rappaport & E. Seidman (Eds.), *Handbook of community psychology* (pp. 647–668). New York: Kluwer Academic/Plenum Publishers.
- Lynch, K. (1960). *The image of the city*. Cambridge, MA: The Technology Press & Harvard Press.
- Lynch, K. (1977). *Growing up in cities*. Cambridge, MA: The MIT Press.
- MacLeod, J. (1987). *Ain't no makin' it: Aspirations and attainment in a low-income neighborhood*. San Francisco: Westview Press.
- Martinez, M., Black, M., & Starr, R. (2002). Factorial structure of the perceived neighborhood scale (PNS): A test of longitudinal invariance. *Journal of Community Psychology*, 30(1), 23–43.
- Maurer, R., & Baxter, J. (1972). Images of the neighborhood and city among Black-, Anglo-, and Mexican-American children. *Environment and Behavior*, December, 351–338.
- McKnight, J., & Kretzman, J. (1990). *Mapping community capacity*. Evanston, IL: Center for Urban Affairs and Policy Research, Northwestern University.
- Meegan, R., & Mitchell, A. (2001). It's not community round here, it's neighbourhood change and cohesion in urban regeneration policies. *Urban Studies*, 38(12), 2167–2194.
- Moore, R. (1986). *"Childhood's domain" play and place in child development*. London: Croom Helm.
- Moos, R. (2003). Social contexts: Transcending their power and their fragility. *American Journal of Community Psychology*, 31(1/2), 1–13.
- Nicotera, N. (2003). Children and their neighborhoods: A mixed methods approach to understanding the construct neighborhood. Dissertation Abstracts International (UMI No. 3072123).
- Nicotera, N. (2005). The child's view of neighborhood: Assessing a neglected element in direct social work practice [electronic version]. *Journal of Human Behavior in the Social Environment*, 11(3/4), 105–134.
- Nicotera, N. (2004). *Children speak about neighborhoods: Using mixed methods to measure the construct neighborhood*. Paper presented at the 8th annual conference of the society for social work and research, New Orleans, LA.
- Parameswaran, G. (2003). Experimenter instructions as a mediator of the effects of culture on mapping one's neighborhood. *Journal of Environmental Psychology*, 23, 409–417.
- Perkins, D., Florin, P., Rich, R., Wandersman, A., & Chavis, D. (1990). Participation and the social and physical environment of residential blocks: Crime and community context. *American Journal of Community Psychology*, 18(1), 83–113.
- Perkins, D., Meeks, J., & Taylor, R. (1992). The physical environment of street blocks and residential perceptions of crime and disorder: Implications for theory and measurement. *Journal of Environmental Psychology*, 12, 21–34.
- Perkins, D., & Taylor, R. (1996). Ecological assessments of community disorder: Their relationship to fear of crime and theoretical implications. *American Journal of Community Psychology*, 24(1), 63–107.
- Pinderhughes, E., Foster, E., Jones, D., & The Conduct Problems Prevention Research Group. (2001). *Journal of Marriage and Family*, 63, 941–953.
- Plotnick, R., & Hoffman, S. (1999). The effect of neighborhood characteristics on young adult outcomes: Alternatives estimates. *Social Science Quarterly*, 80(1), 1–17.
- Qvortrup, J. (1990). A voice for children in statistical and social accounting: A plea for children's right to be heard. In A. James

- & A. Prout (Eds.), *Constructing and reconstructing childhood* (pp. 85–106). Basingstoke: Falmer Press.
- Ramadier, T., & Moser, G. (1998). Social legibility, the cognitive map and urban behavior. *Journal of Environmental Psychology, 18*, 307–319.
- Roosa, M., Jones, S., Tein, J., & Cree, W. (2003). Prevention science and neighborhood influences on low-income children's development: Theoretical and methodological issues. *American Journal of Community Psychology, 31*(1/2), 55–72.
- Rosenbaum, E. (2001). The social context of new neighborhoods among MTO Chicago families. *Poverty Research News, 5*(1), 16–19.
- Sampson, R. (2000). Whither the sociological study of crime? *Annual Review of Sociology, 26*, 711–714.
- Sampson, R., & Groves, W. (1989). Community structure and crime: Testing social-disorganization theory. *American Journal of Sociology, 94*(4), 774–802.
- Sampson, R., & Raudenbush, S. (1999). Systematic social observation of public space: A new look at disorder in urban neighborhoods. *American Journal of Sociology, 105*(3), 603–651.
- Sampson, R., Raudenbush, S., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science, 277*, 918–924.
- Sampson, R., & Wilson, W. J. (1995). Toward a theory of race, crime, and urban inequality. In J. Hagan & R. Peterson (Eds.), *Crime and inequality* (pp. 37–56). Stanford, CA: Stanford University Press.
- Schiavo, R. S. (1988). Age differences in assessment and use of a suburban neighborhood among children and adolescents. *Children's Environments Quarterly, 5*(2), 4–9.
- Seidman, E., Yoshikawa, H., Roberts, A., Chesir-Teran, D., Allen, L., Freidman, J., & Aber, L. (1998). Structural and experiential neighborhood contexts, developmental stage, and antisocial behavior among urban adolescents. *Development and Psychopathology, 10*, 259–281.
- Shaw, C. (1931). *The natural history of a delinquent career*. Chicago: University of Chicago Press.
- Shaw, C., & McKay, H. (1942). *Juvenile delinquency and urban areas*. Chicago: University of Chicago Press.
- Shaw, C., McKay, H., & MacDonald, J. (1938). *Brothers in crime*. Chicago: University of Chicago Press.
- Sheidow, A., Gorman-Smith, D., Tolan, P., & Henry, D. (2001). Family and community characteristics: Risk factors for violence exposure in inner-city youth. *Journal of Community Psychology, 29*(3), 345–360.
- Shinn, M., & Toohey, S. (2003). Community contexts of human welfare [electronic version]. *Annual Review of Psychology, 54*, 427–459.
- Small, S., & Supple, A. (2001). Communities as systems: Is a community more than the sum of its parts? In A. Booth & A. Crouter (Eds.), *Does it take a village? Community effects on children, adolescents, and families* (pp. 161–174). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- South, S. (2001). Issues in the analysis neighborhoods, children, and families. In A. Booth & A. Crouter (Eds.), *Does it take a village? Community effects on children, adolescents, and families* (pp. 87–94). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Specht, H., & Courtney, M. (1989). *Unfaithful angels: How social work has abandoned its mission*. New York: Free Press.
- Spencer, M. B., McDermott, P. A., Burton, L. M., & Kochman, T. J. (1997). An alternative approach to assessing neighborhood effects on early adolescent achievement and problem behavior. In B. Gunn et al. (Eds.), *Neighborhood poverty: Policy implications in studying neighborhoods* (Vol. 2, pp. 145–163). New York: Russell-Sage Foundation.
- Stack, R., Magill, C., & McDonagh, K. (2003). Engaging youth through photovoice. *Health Promotion Practice, 5*(1), 49–58.
- Sutton, S., & DeBruin-Parecki, A. (under review). Children's representations of their neighborhoods and social selves: Promoting social vision through place-related literacy. *American Educational Research Journal*.
- Taylor, A., Wilely, A., Kuo, F., & Sullivan, W. (1998). Growing up in the inner city green spaces as places to grow. *Environment and Behavior, 30*(1), 3–27.
- Tienda, M. (1991). Poor people and poor places: Deciphering neighborhood effects on poverty outcomes. In J. Huber (Ed.), *Macro-micro linkages in sociology* (pp. 244–262). London: Sage Publications.
- Vandell, D., & Posner, J. (1999). Conceptualization and measurement of children's after-school environments. In S. Freidman & T. Wachs (Eds.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 167–196). Washington, DC: American Psychological Association.
- Wachs, T. (1999). Celebrating complexity: Conceptualization and assessment of the environment. In S. Freidman & T. Wachs (Eds.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 357–392). Washington, DC: American Psychological Association.
- Wang, C. (1999). Photovoice: A participatory action research strategy applied to women's health. *Journal of Women's Health, 8*(2), 185–192.
- Wang, C., & Burris, M. (1997). Photovoice: Concept, methodology, and use for participatory needs assessment. *Health Education & Behavior, 24*(3), 369–387.
- Wang, C., Morrel-Samuels, S., Hutchison, P., Bell, L., & Pestronk, R. (2004). Flint photovoice: Community building among youth, adults, and policy makers. *American Journal of Public Health, 94*(6), 911–913.
- Whyte, W. (1943). *Street corner society: The social structure of an Italian slum*. Chicago: University of Chicago Press.
- Wikstrom, P., & Loeber, R. (2000). Do disadvantaged neighborhoods cause well-adjusted children to become adolescent delinquents? A study of male juvenile serious offending, individual risk and protective factors, and neighborhood context. *Criminology, 38*(4), 1109–1142.

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