

**NEIGHBORHOOD CONDITIONS SAFETY SCALE (NCSS):
EXPLORATORY STUDY FOCUSED ON ASSESSING INTER-RATER
RELIABILITY AND VALIDITY WITH THE RBEI**

**DISSERTATION SUBMITTED TO THE FACULTY OF THER ADLER
SCHOOL OF PROFESSIONAL PSYCHOLOGY**

BY

JASMINE U. JONES

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF DOCTOR OF PSYCHOLOGY**

CHICAGO, ILLINOIS

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Abstract

The Neighborhood Conditions Safety Scale (NCSS), a block-specific assessment tool designed to survey both objective and subjective indicators and their relationship to perceived safety/comfort, underwent an exploratory study to assess for inter-rater reliability and convergent validity. The Revised Block Environmental Inventory (RBEI) was paired with the NCSS during block-level assessment to judge convergent validity. Three Chicago neighborhoods were sampled by three raters (n=24 neighborhood blocks each). Results yielded significant inter-rater reliability for the NCSS (interclass correlation range from .82 to 1.00) and evidence for convergent reliability with the RBEI. In addition, inter-rater reliability was found to be higher for the NCSS than for the RBEI. Useful implications for the results exists for both community members and policy-makers. Overall, the present pilot study confirmed hypotheses, highlighted limitations of the NCSS and provided direction for future research.

Keywords: perceived safety, assessment tools, environmental psychology, Chicago, RBEI, NCSS, BEI, block environmental inventory, objective measures

Acknowledgments

I would first like to thank God for all that he has bestowed upon me. Most specifically, I am extremely grateful for the air I breathe, life experiences and favor that I have received especially at times when I felt undeserving. To God be the Glory! I understand that, to whom much is given much is required and I am both ready and eager to be as much of a blessing to others as you has been to me.

The greatest gift God has ever given me is my Mother. Without you I would be aimless without an anchor. You are my biggest fan, my adviser and my best friend. I am so thankful for God choosing you for me. I have learned so much about being a woman of God, not from what you say but, from what you do. I have never met a more resilient, humble, kind and loyal person in my life. Thank you for showing me what living a life worth living looks like. I hope that, when my children grace this earth, I can be half the mother you are. To my grandmother, thank you for my Mom! Without you, there is no us. My Mom gets her strength from you in addition to her crazy cleaning habits. I love you both and hope that I continue to show you the fruit of your labor through my life choices because 'I know who raised me!'

To Adler classmates and influential professors, while too many to name, thank you all for taking me to the next level professionally and academically. From intense classroom discussions to private mentorship conversations, I know

my professional steps over the past 5 years have been influenced by all of you. I hope to join the professional world and make all of you proud.

To my Adler 'girls', I honestly could not have made it through the years of Adler without you. Our friendship, dinners and stress management sessions kept me sane through unpredictable challenges. I admire your determination to overcome all barriers and I knew I was a part of an army in a war that was destined to win. One of your most effective weapons was humor and did we laugh, or did we laugh? I will never forget our special moments for times to come.

While discussing friends, I have to acknowledge those who knew me before I was 'me'. To Alesia Upton, Sherwood Gresham, and others, you all are my family. We have been a team since our childhood years. You have supported me from day one, from me declaring I was going to be an entertainment lawyer to a pediatrician. Your faith in me has never wavered and it has always been "of course you can, Jazz". You will never know what that has meant to me. I can only hope that I can repay the favor each and every opportunity that I get. Thank you for being my refuge from storms and reminding me that I am more than my work when I get overwhelmed. I love each and every one of you.

This work could not have been completed without Dr. Moore and my dissertation committee. Dr. Moore, your guidance and excitement about this work has kept me focused on its importance and potential. It is so easy to get distracted

by requirements and deadlines that you lose sight of why you are doing the work. Thank you for making time to engage in a meaningful process with me and helping me in times of need. I have valued your expertise and advice. To Dr. Dyson and Dr. McDowell, it has been a pleasure knowing you both during my time at Adler. A special thank you to Dr. Dyson for joining my committee with no questions asked. That meant a lot to me. Additionally, Dr. McDowell I appreciate you valuing my opinions and comments during our time working together in the ISE. I always enjoyed working alongside you in the community and I appreciate the mentorship you provided. All three of you played a critical role in my launching into the next chapter of my life. For that, I thank you! I appreciate your vote of confidence that I am ready for what lies ahead and I will remember all the feedback provided to me as I continue to grow as a clinician.

Lastly, Thank you to everyone to was ever someone to me. Every moment we shared has contributed to who I am today and I do not take that for granted. God is so awesome that he places people in your life for specific significant purposes. It is true that people transition, grow, and evolve. Yet, God leaves each of us with, the most important aspect of those transient relationships, the memories! I will always cherish those memories that got me to where I am today. I know there are a few of you that earned by Psy.D by proxy through late night study sessions with me. I am sorry about that! I thank you all and God Bless!

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Sheridan Correctional Center -Sheridan, IL Sept '12 – May '13
Advanced Extern

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- SCC is a medium Security adult male prison with a population of 1,606 inmates noted for being one of the largest substance abuse treatment programs in the nation
- Responsible for providing individual therapy with both the substance abuse treatment inmates and the general population inmates
- Create and execute loss/grief groups and adjustment groups for inmates ranging from 4-8 persons per group

- Responsible for crisis management, placing and monitoring inmates on watch or segregation and conducting DOC compliant mental health and suicide risk assessments

Our Children's Homestead -Naperville, IL

July '11 – June '12

Intervention Extern

Supervisor: Joe Roszkowski, Psy.D

- OCH is a provider of foster care and adoption services for foster children in the State of Illinois
- Provided individual therapy with specialized foster youth, those who exhibit minimal to severe mental health needs, ranging in age from 14-21
- Managed a caseload between 7-11 clients individual therapy clients
- Participated in Child and Youth Engagement Team meetings with DCFS to recommend placements and relocations for my clients
- Intervened in crisis that arose between youth and peers and youth and foster parents
- Responsible for conducting family therapy with foster youth and their foster parent(s) as well as biological parents who are advocating to have their children returned home
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Center for Applied Psychology and Forensic Studies-Chicago, IL

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- CAPFS is an agency that provides services to law enforcement and public safety agencies, as well as other organizations.
- Involved in forensic assessments, diagnosis and case management of individuals who had pending forensic court cases
- Conducted psychological assessment for individuals involved in a day program associated with a corporation for people with developmental disabilities.
- Developed treatment plans for the individuals with developmental disabilities
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- Responsible for providing individual therapy and re-entry services with individuals at the: United States Penitentiary, medium security Federal Correction Institution, and the low Federal Prison Camp.
- Create and execute mental health groups for inmates ranging from 8-22 persons per group (i.e. STAGES program groups, Emotional Regulation, and Moral Development groups via the Kohlberg model)
- Responsible for crisis management, disruptive behavior interventions, intake assessments, psycho-social assessment, intellectual functioning assessments, monitoring inmates in segregated housing and death row as well as conducting BOP compliant mental health and suicide risk assessments

Our Children's Homestead -Naperville, IL

July '12 – June '13

Therapist

- OCH is a provider of foster care and adoption services for the foster youth in the State of Illinois
- Provided individual therapy with specialized foster youth, those who exhibit minimal to severe mental health needs, ranging in age from 14-21
- Manage a caseload between 7-11 clients individual therapy clients, participated in Child and Youth Engagement Team meetings with DCFS to recommend placements and relocations for my clients
- Intervened in crisis that arose between youth and peers and youth and foster parents
- Responsible for conducting family therapy with foster youth and their foster parent(s) as well as biological parents who are advocating to have their children returned home
- Responsible for creating a parenting curriculum

Vinfen/Forest Hills House-Jamaica Plains, MA

Mar '08- July '08

Direct Care Counselor

- Responsible for assisting individuals with schizophrenia living in the home with daily living skills such as cooking, cleaning, social skills and recreation

- Responsible to ensuring that the residents of the home be compliant with their medication and treatment plans outlined by their treating psychiatrist
- Assisted in resolving conflicts and the development of coping skills for the residents

Renewal Home-Boston, MA

Nov '06- Dec '08

Domestic Violence Children Counselor

- Attended weekly meetings to the shelters
- Utilized various different types of play therapy with the children
- Held group discussion with the parents and children to discuss feelings about the current transition they were undergoing
- Contributed to advice/reflection workshops in which individuals speak about experiences and advise others on more effective ways to engage the youth

Roxse Homes-Boston, MA

Jan '05- Apr '06

Youth Consultant

- Proposed trips for the youth of Roxse Homes in order to experience culture, history and other aspects of their community that they would otherwise not have the opportunity to experience
- Implemented activities for the after school programs and homework/study sessions
- Prepared the Technology Center's curriculum for the youth which involved cognitive-building activities and hand-eye coordination
- Advised the supervisor and employees about the youth of the residences and their needs
- Counseled the youth residence about career path issues, life challenges, peer-pressure, sex, and independence

ACADEMIC/TEACHING EXPERIENCE

Adler School of Professional Psychology Chicago, IL

Jan '12- July '12

Teaching Assistant- Basic Skills for Psychotherapy

Professor: Tomike Lana, Psy.D

- Responsible for tutoring and lead study sessions for students enrolled in the course
- Accountable for preparing course materials as well as type, file, and copy materials as needed
- Serve as outside response for student to aid with questions and concerns throughout the course
- Assist with grading and maintaining course records

- Responsible for creating the curriculum for the course lab and conducting supplemental learning exercises for the advancement of the student's acquisition of clinical interviewing skills

Adler School of Professional Psychology Chicago, IL Jan '12- July '12
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Professor: Tomike Lana, Psy.D

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- Responsible for participating in intervention training sessions and assisting youth and adult participants during bonding activities
- Held liable for completing and submitting necessary documentation and attendance logs as well as participating in staff meetings

Adler School of Professional Psychology -Chicago, IL Dec' 10- June '13
Research & Outreach Assistant
Supervisor: Lynn Todman, PhD

- Accountable for multiple projects executed by the Institute on Social Exclusion both on campus and in the community

- Involved in conducting community research and organizing community events for a local Mental Health Impact Assessment (MHIA) in the Englewood neighborhood of Chicago, IL
- Responsible for conducting sophisticated literature reviews for the MHIA process
- Created and involved in the further development of a neighborhood condition's assessment scale for the MHIA project

COMMUNITY ENGAGEMENT EXPERIENCE

Holy Angels Boys & Girls Club-Chicago, IL Jan '10 – June '10

Community Service Extern

Supervisor: Ms. Denysia White

- Created a program that encourages healthy mindsets and healthy bodies for young girls ages 8-13
- Advised the program members of effective exercises that can help them achieve their fitness goals
- Implemented the program according to the Boys & Girls Club youth development strategy and program manuals
- Evaluated the program at the conclusion of the practicum experience using the input of members, families, and staff

Iota Chap. Delta Sigma Theta Sorority –Boston, MA Apr '08 –Apr '09

President

- Responsible for the community involvement of 14 college educated women from the following universities: Boston University, Simmons College, Boston College and Northeastern University
- Planned and execute community service programs and events for the Boston community
- Responsible for conducting meetings with both my chapter and committees as well as reporting to the Regional Director

Outreach Ministries Consultant-Newport News, VA Jan '03-Aug '06

Community Outreach Leader

- Contributed to arranging the activities for the community as well as the food and clothes drives
- Co-directed for the Lifehouse Organization, which is an organization for underprivileged women and children who are foreign and native born in need of assistance with living, working, and getting into government programs in the United States

- Aided in the preparation, execution, and reflection of the trip to Evander Holyfield's house in Atlanta, GA for his annual fourth of July Celebration

Abundant Life Daycare-Newport News, VA

Apr '04- Aug '05

Daycare Assistant

- Organized and regulated playtimes, lunchtimes, and naptimes for the 5 and under youth
- Counseled the 6-12 age group on various school appropriate issues and was sensitive to their personal problems and opinions while communicating effective solutions
- Enhanced the hygiene and safety of the 5 and under youth throughout the day by paying close attention to their actions

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Psi Chi Lifetime Member

American Psychological Association (APA)

Association of Black Psychologists (ABPsi)

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Adler Student Association

Feminism and Equality Alliance

Adler Clinical Hypnosis Association

Adler Black Student Association

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Chapter I: Introduction

General Statement

Perceived neighborhood safety and individual comfort in a neighborhood are significantly important for the understanding of individual behavior and mental health. Feelings of a lack of safety or discomfort fueled by either objective environmental indicators or individual factors, greatly threaten the degree to which one feels safe in a neighborhood (Porter, Rader, & Crossman, 2012). Subsequently, an individual's lack of neighborhood connection and neighborhood perceived safety can lead to adverse mental health reactions to include poor self-esteem, depression and psychological distress, which are important to prevent and treat in the field of psychology (Depere, Leventhal & Vitaro, 2012; Roh et al., 2011; Porter, Rader, & Crossman., 2012; Steptoe & Feldman, 2001; Stafford, McMunn & De Vogli, 2011; Yen, Yelin, Katz, Eisner & Blanc, 2006).

However, the question of how to accurately and consistently measure the physical and social indicators of poor neighborhood conditions, which contribute to perceived neighborhood safety, is relevant. The identification of neighborhood objective and subjective conditions and their effects on individual behavior and community mental health have been widely studied in the past 10-20 years. Some disciplines that have undergone this concern are: psychology, sociology, public health, anthropology, criminology, pediatrics, and geography (Weden, Carpiano,

& Robert, 2008). However, few studies have researched the observable conditions that impact human behavior and mental health with an aim of creating measures that can effectively and validly assess various types of neighborhoods within a given city due to the stark variability that exists from neighborhood to neighborhood (Weden et al., 2008). In addition, there is a void of official standardized neighborhood assessment tools in the field that can be reproduced for the use of others and applicable in different geographical regions (Porter et al, 2012). By creating such tools, it would be greatly beneficial for a wide-range of professionals who are invested in learning and understanding stressors a community or individual faces and the presence of community resources (Porter et al, 2012; LaGrange, Ferraro & Supanic 1992). Perceived safety and neighborhood conditions data can also aid professionals on a policy level. Professionals can utilize data to help facilitate conversations regarding economic, community and public safety needs (Porter et al, 2012; Fish, Ettner, Ang, & Brown, 2010; Dupere, Leventhal, & Vitaro, 2012).

Perceived neighborhood safety and neighborhood conditions have been found to be associated with adverse mental health symptoms such as substance abuse and depression (Theall, Sterk, & Elifson, 2009). Thus, a scale designed for perceived neighborhood safety assessment is not only useful for researchers but also clinicians and clients. Having clients administer perceived neighborhood safety measures allow a clinician insight into clients' subjective 'worlds', which

may deepen the clinical understanding of their behaviors. The aforementioned deeper insight into a client's environment and symptomology, also may allow for the identification of appropriate longstanding clinical interventions that will continue to be effective outside of the therapy room (Wen, Hawkey, & Cacioppo, 2006). Not fully appreciating a client's social complexities and opinions of their living environment outside of their homes and therapeutic spaces causes a dangerous gap in clinical and community intervention (Wen et al., 2006). Lastly, it would also be useful for clients to use the scale themselves to foster an awareness of the social environments in which they live and how it that may or may not affect their thoughts, feelings, and behavior.

Statement of the Problem

While working on a project with the Institute of Social Exclusion (ISE) of the Adler School of Professional Psychology, under the principal researcher Dr. Lynn Todman, the importance of neighborhood safety and comfort in regards to mental health became glaring. The study was aimed largely at investigating the mental health repercussions of unemployment so as to influence public policy. During the literature review and community interview stints for the project, it was discovered that the lack of employment was influenced by not only prison records, education and lack of vocational opportunities within certain communities but also a lack of sense of belonging to a community and perceived safety. Although research was located discussing these connections, a gap in the

literature was identified in reference to how community assessment methods could be utilized in the ISE study due to a lack of valid cost-effective assessment tools. This is problematic because, while the research being consumed was useful for insight building, it was not helpful for communities that may look and function differently than the given locations in the research study. Thus, a scale that could be utilized to appreciate the unique challenges of a given community and its residents is essential in making sure that the clinical understanding of the resident is not too universal.

Another major problem in the field, regarding research assessment examining the relationship between neighborhood conditions and perceived safety, is the varying assessment methods. Few formal assessment tools exist that measure the relationship between neighborhood conditions and perceived neighborhood safety (Perkins, Meeks & Taylor, 1992). Rather, assessment tools have been created with a predominant focus on the relationship between perceived neighborhood safety and health impacts (i.e. perceived neighborhood tool merged with mental health questions) (Wen et al., 2006; Pickett & Pearl, 2001; Fish et al., 2010). In addition, researchers have utilized different assessment methods tactics that are not easily transferable to other studies and populations (Wen et al., 2006). These tactics included but are not limited to adding one to two original questions (created by the respective researcher) regarding fear of surroundings to preexisting questionnaires or administering

different questions from multiple scales (i.e. questions from a safety scale and a walkability scale) together in order to grasp how an individual's perceived safety and their perceptions of neighborhood walking conditions effect their sense of community and health (Elo, Mykyta, Margolis, Cluhane, 2009; Rasmussen, Aber & Bhana, 2004. Wen et al., 2006). While valuable, these approaches did not offer the policy effectiveness of standardized/universal data of different geographic neighborhood indicators which could ascertain common conditions that may be related to systematic rather than merely localized concerns (Boomsma & Steg, 2014). For example, Boomsma & Steg (2014) discussed how environmental energy reduction/conservation initiatives (decreasing street lighting usages) may be negatively related to perceived neighborhood safety. Furthermore, they stated that "reduced lighting policies will not be accepted by the public when perceived social safety is threatened" (Boomsma & Steg, 2014, p. 195). Thus, a universal neighborhood conditions safety tool can be significantly useful to help inform lighting policy.

Other studies have created measures to objectively assess the quality of neighborhood conditions (i.e. housing quality, litter, school quality etc.) without an understanding of how those conditions affect the neighborhood members (Cohen, Spear, Scribener, Kissinger, & Wildgen, 2000). Lastly, the most significant inventory that has been created, the Block Environmental Inventory (now in its revised form), which effectively measures the goals of this present

study, has structural aspects (i.e. layout and length) that the Neighborhood Conditions Safety Scale (NCSS) hopes to rectify (Perkins et al., 1992; Perkins & Taylor, 1996).

The Revised Block Environmental Inventory (RBEI) is a comprehensive, criterion-related and concurrent valid, environmental objective measure that assesses neighborhoods on a block by block basis. The RBEI is being used because of availability as it is the update to the Block Environmental Inventory (BEI) created by Douglas D. Perkins, PhD in 1987. The RBEI was developed by Dr. Perkins in 1992 and is designed for use as a neighborhood block assessment tool which includes social (i.e. type of people outside), physical (i.e. vacant homes) and residential (i.e. lighting) indicators which may also affect mental health and human behavior (Perkins et al., 1992; Perkins & Taylor., 1996). At the present time, the RBEI measurement tool is the trailblazer of perceived safety block environment assessment and is well-regarded in the field (Perkins et al., 1992). The tool uses a unique social component that is unlike any other scale which allows the rater to describe the behaviors of pedestrians using a coded system. It also has a high inter-rater reliability that has been replicated over many samples.

Yet, as mentioned above, the inventory is not without limitations. The RBEI is quite extensive in its indicators that have to be observed in vivo by the researcher on foot, which causes the tool to be lengthy in administration time.

Also, significant training on the measure is required to accurately utilize it for data collection as evidenced in the instructions of the tool (see Appendix C). Thus, the clinical implications of a tool such as the RBEI are circumvented because it doesn't allow diverse clients or community organizers to assess their own communities for interpretation in a user-friendly manner. Lastly, the RBEI is designed to be an objective assessment tool and makes a conscious effort to avoid subjective commentary in many of its sections. The problematic nature of a neighborhood assessment tool only focused on objective data is that it misses the opportunity to allow the rater to explain why they perceive their surroundings in the manner that they do. This additional data can be a great benefit to data interpreters because it allows them to understand how raters rationalize and form cognitions regarding their environment. This insight development would be bi-directional such that the clinician could also assess the community from where many of their clients reside to grasp a deeper understanding of their living environment. The present study was conducted to strengthen and validate the NCSS, which captures the subjective as well as the objective indicators in a neighborhood that contributes to an individual's perceptions of safety and comfort. Validation was sought by administering the NCSS with the RBEI and comparing results. Last but not least, this study explored if the NCSS built on the limitations of the RBEI without sacrificing effectiveness or inter-rater reliability.

Statement of Purpose

There were many purposes to conduct the present study. While various attempts have been made to contribute a tool to the field of psychology, aimed at measuring psychological factors related to neighborhood conditions, there is much room for improvement. The most pressing concern is that there is not a selection of prominent measures available to researchers or clinical practitioners that are identified as accurate or reliable instruments for the task. The present study aimed to ascertain whether the Neighborhood Conditions Safety Scale (NCSS) was a valid concise, effective and universally reliable assessment tool. The benefits of the NCSS are multifaceted.

First, the scale was designed to replicate prior research findings of significant relationships between neighborhood conditions and perceived safety such that one's sense of safety and comfort decreases with the decline of neighborhood conditions (Perkins et al., 1992; Theall, Sterk & Elifson, 2009; Fite, Vitulano, Wynn, Wimsatt, Gaertner & Rathert, 2010). Next, the NCSS has the potential to identify and support possible objective alterations that could be made in certain environments to increase one's sense of safety or cohesion (i.e. neighborhood cleanup or cosmetic changes). Additionally, the tool may aid in the further validation of specific neighborhood conditions which lead to perceptions of a lack of safety (i.e. litter, rundown homes, graffiti etc.). Therefore, the scale can be utilized as an advocacy tool for public policy and an empowerment tool for community organizations. Lastly, the NCSS is designed to assess positive

consequences of neighborhood conditions as well as negative consequences by including opportunities for the rater to objectively detail above par neighborhood conditions and add positive written responses regarding subjective conditions (i.e. safety, sense of community and social cohesion).

As stated earlier, the aim of the study was to obtain a baseline of inter-rater reliability as well as convergent validity between the NCSS and the RBEI to increase the credibility of the NCSS. By the NCSS being found to be reliable and valid, it has passed the first requirements of contributing a new block environmental perceived safety tool to the field of psychology that: (a) capitalizes on the strengths of the RBEI without its limitations, (b) examines subjective as well as objective indicators and (c) can be utilized by clinicians, researchers and community members with ease.

Objectives and Research Questions

This study had three objectives: (1) to assess a baseline of the inter-rater reliability of the NCSS, (2) to assess whether or not there was convergent validity between the NCSS and the RBEI and (3) to assess objective and subjective indicators of neighborhood conditions and perceived neighborhood safety.

Assumptions

There were a few assumptions with this study. First, the raters for this trial of the research were from an academic population (namely two doctoral students and one professor). The assumption was that raters from a non-clinical

population would minimize effects of other mental health factors and emotional difficulties on the rating of the blocks in the neighborhood for the baseline study. It was also assumed that each rater is void of neighborhood bias or favoritism. Lastly, the raters were assumed to be well-versed in the scale manual, rating criteria and tasks of their participation in the data collection of the baseline study.

There were also foreseen limitations of this study due to it being an exploratory unfunded research project. Each limitation was minimized or avoided during the study as much as possible. One major limitation of the study may have been the rater sample size ($n=3$), which is why future studies will be conducted with more raters to either improve or reproduce results obtained in this study. Another limitation may have been same source bias, which occurs “when a third unobserved factor, like psychological disposition, influences both a respondent’s reporting on his/her neighborhood and his/her health” (Weden, Carpiano & Robert, 2008, 1258). Even though human subjects were not recruited for this data collection trial, same source bias may have occurred due to all of the raters being clinical psychology researchers from the same academic institution. However, the possibility of same source bias is hypothesized to have been reduced due to raters not rating their own neighborhood blocks and/or rating personal health symptoms.

Another possible limitation of this exploratory study was the variability of time of day and observations. More specifically, as it relates to the subjective indicators of the NCSS, it may be the case that one or more of the neighborhood’s

blocks function differently in the morning, afternoon and evening. Thus, it was the goal of the raters to assess the blocks independently yet at the same time of day to maintain consistency. Since, the raters are not residents of the communities they are assessing they cannot vouch for possible social differences from day to night. A possible limitation exists with the results of this study, although high on inter-rater reliability, because they are not an accurate representation of the culture of the community. To be sensitive to this limitation, the results of this study were not assumed to be concrete evaluations of the block functioning of a given community but rather solely evaluations of the block functioning at the moment of observation. Finally, there was a community limitation for the pilot study such that the blocks being evaluated will only be a part of the various neighborhoods in the city of Chicago, Illinois.

Chapter II: Review of Literature

Overview

Studies from a variety of disciplines endorse the significance of and relationship between: perceived neighborhood safety, social factors, adequate neighborhood environments and individual health/behavior (Fernandez & Harris 1992; Haines, Beggs, & Hurlbert, 2011; Humpel, Owen, & Leslie, 2002; Robinson, Lawton, Taylor, & Perkins, 2003). Furthermore, Ross and Mirowsky (2009) suggest that mental wellness is based on social support/cohesion, which involves a sense of consistent aid and positive regard from others. The lack of social support in a community increases an individual's feelings of loneliness and isolation. Such increases in social isolation, characterized by an absence of meaningful interactions with others, contribute to the development of severe behavioral and psychological distress (Booth, Ayers & Marsiglia, 2012; Fernandez & Harris, 1992; Wilson, 1987).

Neighborhood conditions are a critical factor affecting perceived neighborhood safety, social cohesion, and health (Cohen, et al., 2000; Ross & Mirowsky, 2009; Booth et al., 2012; Perkins et al., 1992; Perkins & Taylor, 1996). Individuals residing in disadvantaged neighborhoods are more likely to experience a lack of pro-health social involvement and positive perceptions of safety (Roh et al., 2011; Perkins et al., 1992). The subsequent research questions

of how and why neighborhood conditions affect perceived safety have significant focal points for many decades.

Many theories, such as the 'Broken Windows' theory and Social Disorganization theory, attempt to explain the complex relationships between both behavior and perceived safety within a given environment (Ross & Mirowsky, 2001; Ross & Mirowsky, 2009; Kelling & Wilson, 1982). More importantly, theorists have focused on the identification of specific neighborhood condition aspects that impact mental wellness the most. Ecological, sociological and psychological theories have been developed as a result of this inquiry (Ross & Mirowsky, 2009). The present study was influenced by the 'Broken Windows' Theory and the Social Disorganization Theory as together they provide a compelling explanation supporting neighborhood condition effects on individual perceived neighborhood safety, wellness and behavior (Booth et al., 2012; Cohen et al., 2000; Mirowsky & Ross, 1983; Ross & Mirowsky, 2009; Markowitz, Bellair, Liska & Liu, 2001; Kelling & Wilson, 1982) .

Studies have utilized quantitative and qualitative research to both measure and understand the relationship between perceived safety, neighborhood conditions and individual wellness. Through scholarship, researchers have discovered specific neighborhood conditions that most significantly affect an individual's perceived safety. However, a major limitation in the measurement of neighborhood conditions and perceived safety is the ability for assessment

methods to be reproduced and/or generalized to other populations (Fish et al., 2010). The following literature review is not intended to be exhaustive but rather reflective of neighborhood conditions and perceived safety research as well as limitations of prior assessment methods.

Perceived Safety and Perceived Neighborhood Safety

Perceived safety. The increases in actual community crime (namely in the United States) over the past 4-6 decades has increased media focus on violence as well as cinema (Austin, Furr & Spine, 2002). The display of violence on cinema/television, coupled with media coverage of real criminal behaviors, has contributed to general increases of individual perceptions of unsafety (Austin et al., 2002). Increases in public fearfulness is believed to have subsequently encouraged expansion of perceived safety correlation research (Austin et al., 2002). Perceived safety has been associated with social isolation and mental health (Booth et al., 2012; Roh et al., 2011). Regarding a working definition, perceived safety can be best understood as fear of threats, crime and/or victimization independent of the actual real possibility of these events occurring (Box, Hale & Andrews, 1988). Most importantly, perceived safety has referred to direct human fear of other humans (Blobsma & Hunecke, 2005; Fish et al., 2010; Boomsma & Steg, 2014; Loewen, Streel & Suedfeld, 1993; Nasar, 2000).

Perceived neighborhood safety. In this study, perceived safety was observed in the neighborhood context rather than the one-to-one interpersonal

context. *Perceived neighborhood safety* is based on physical, economic and social indicators in the environment (Fish et al., 2010; Robinson et al., 2003; Wen et al., 2006). Thus, while family member and spousal fear is encompassed under the umbrella of perceived safety it does not fit the broader focus of perceived neighborhood safety. Researchers have found that physical and social environmental cues, in particular, significantly influence perceptions of safety within a community and are associated with impairments in overall individual well-being (Roh et al., 2011). The following describes relevant research findings on the effects of perceived neighborhood safety on physical and mental health prior to examining the complex relationship between neighborhood conditions and perceived neighborhood safety in more detail.

Health effects and perceived neighborhood safety. Theall, Sterk and Elifson (2009) sought to study the relationship between perceived neighborhood safety and substance usage over a four year period. They asserted that “limited economic resources, social and human capital, and weak social control may lead to greater levels of risk-taking behavior-both on an individual and community level (Theall et al., 2009, p. 354). The authors used a sample of 210 young adults from the inner-city area of Atlanta, GA who were between the ages of 18-25 years old. The sample was comprised of approximately 81% African Americans with approximately half of the participants without a high school diploma or equivalent. The measures included items from the: Risk Behavior Assessment

(RBA), Addiction Severity Index (ASI), DSM-IV Partial substance abuse module (SAM), and the Global Appraisal of Individual Needs (GAIN).

The results indicated that individuals who endorsed greater fear of their neighborhood environment also had significantly greater levels of drug use (Theall et al., 2009). The findings also suggested that drug use was not the causation of decreased levels of self-esteem and/or higher levels of depressive symptoms. Thus, perceived neighborhood unsafety effected individual mental health functions, which injured self-image and encouraged risky behaviors (i.e. substance abuse). Individuals endorsed an increase in: depressive symptoms, risk-taking behaviors, PTSD and emotional abuse that was positively correlated with perceived neighborhood fear. Regarding demographic factors, women, minorities, parents and individuals with minimal criminal backgrounds perceived their neighborhoods to be most unsafe (Theall et al., 2009).

Theall et al. (2009) noted the limitations of this study to include an unknown population of prior substance abusers (prior to living in the current neighborhood) as well as geographic and ethnic demographics similarities. Due to these limitations, generalizability to more diverse samples was judged to be difficult (Theall et al., 2009). The most significant limitation of this study was the notion that the measurement of perceived neighborhood fear could not be neatly discerned from interpersonal fear (i.e. domestic violence). The reasoning for this limitation was that assessment of perceived neighborhood safety was not specific

(i.e. only based on neighborhood indicators) but rather generalized. Generalized assessment of perceived neighborhood safety implies that an individual can theoretically rate their level of perceived neighborhood fear to be high based on family difficulties rather than the environmental cues. Despite a lack of definitive support of neighborhood conditions, the study successfully showed significant correlation between substance use (including depression, risky behavior and stress) and perceived neighborhood safety (Theall et al., 2009).

Relating to physical health, Fish et al.(2010) examined the association between perceived safety in one's neighborhood and body mass index (BMI) (accounting for endogeneity). They stated that low levels of perceived safety in a community can influence obesity by "increased secretion of stress hormones, lower rates of walking or other outdoor physical activity, and higher rates of stress-related eating" (Fish et al., 2010, p. 2296). The sample for this study included 2255 adults from 65 census tracts that were identified in the Los Angeles Family and Neighborhood Survey 2000-2001. The dependent variable was BMI and the independent variable was perceived neighborhood safety. To measure perceived neighborhood safety, the participants were asked "How safe is it to walk around alone in your neighborhood after dark? (Fish et al., 2010, p.2297)" on a two point Likert scale of dangerous or safe. Findings of the study indicated that 32% of the sample perceived their neighborhood to be unsafe. The results showed that subjects who perceived their neighborhood to be unsafe had a BMI

that was 2.81 kg/m² higher than the other subjects. Again, two major limitations of Fish et al. (2010) research were overall generalizability and lack of assessment of particular neighborhood indicators. However, the results of the study provided evidence that individuals who perceived neighborhood conditions to be unsafe also endorsed behaviors suggestive of limited physical activity, poor eating habits and/or possibly elevated stress levels.

Neighborhood Conditions and Theory

Neighborhood conditions include the physical/incivilities (i.e. housing quality and litter), social incivilities (i.e. loitering) and socioeconomic cues (i.e. demographics and politics) of a particular community (Perkins et. al, 1990; Perkins et al., 1992; Pickett & Pearl; 2001). Theories regarding the effect of poor neighborhood conditions on individual wellness have been largely published documented (Ross & Mirowsky, 2009). However, it is important to note that some researchers expressed opposition to the notion that poor neighborhood conditions adversely affect individual behavior and psychological processes. For example, Schieman (2005) disagreed that neighborhood conditions lead directly to feelings of social isolation/ discomfort due to prior studies noting higher levels of social support in communities that are disadvantaged environmentally. Nevertheless, the majority of research (both quantitative and qualitative) is in agreement that poor individual perception of environmental conditions is positively correlated to poor individual behavior and mental health (Kruger et al.,

2007; Ross & Mirowsky, 2009; LaGrange et al., 1992; Porter et al. 2012).As
aforementioned, theorists also have also crafted explanations of this positive
correlation (Ross & Mirowsky, 2009; Sampson, Raudenbush & Earls, 1999;
Kelling & Wilson, 1982).

The ‘broken windows’ theory. While many social theories related to
neighborhood conditions exist, there are two that serve as anchors in research.
One of those theory is the ‘Broken Windows’ theory by Kelling & Wilson (1982).
The ‘Broken Windows’ theory followed the implication of a state program
incentive. The state of New Jersey assigned police officers to patrol
neighborhoods by foot under the initiative titled ‘Safe and Clean Neighborhoods
Program’ during the 1970’s (Kelling & Wilson, 1982). The impact of the foot
patrol on the rate of criminal activity was minimal to null. However, it was
discovered that both residents (of the foot patrolled neighborhoods) and foot
patrol officers felt safer and more cohesive with one another. In addition, it was
found that patrol officers and residents believed that crime had decreased in the
communities (Kelling & Wilson, 1982). The incongruence between real and felt
safety posed the question of how it was possible to have positive perceived safety
in a growingly unsafe environment. Kelling and Wilson (1982) assert that one
possible answer to this question was the ‘Broken Windows’ theory which was
deemed applicable to any neighborhood.

The 'Broken Windows' theory suggests, metaphorically, that if one window is broken and goes unrepaired then eventually all windows will be broken due to a direct correlation between the appearance of an environment and individual behavior (O'Brien & Kauffman, 2013; Kelling & Wilson, 1982). The implication of the theory is if the physical and social environment of a neighborhood is not in order (i.e. children not watched by the community, loitering allowed, litter increased, and abandoned properties) it is a sign, to both residents and strangers, that there is permission for disorderly conduct in that neighborhood (Kelling & Wilson, 1982). Furthermore, an observed broken window allows individuals to assume that residents are apathetic regarding the community and contributing to the disorder would not be a significant event. It is important to remember that perceived neighborhood safety does not necessarily correlate with actual crime rates. The 'Broken Windows' theory asserts that observed neighborhood incivilities encourage individuals to believe and/or feel that criminal behavior is higher despite statistics (Chappell, Monk-Turner & Payne, 2011). Kelling and Wilson (1982) provided support for the separation of real and felt safety when they noted that residents, who were interviewed in the Boston public housing projects, expressed the most perceived unsafety in areas most prevalent for poor physical and social neighborhood conditions rather than criminal activity.

According to this theory, a critical symptom of observed apathy and increased neighborhood disorder in a community is the increased feelings of

residents/travelers unsafety (Kelling & Wilson, 1982). To compensate for unsafe feelings, individuals will adapt their behaviors to regain positive feelings of perceived safety to include: (a) adding locks to their homes, (b) associating less with residents while outdoors, (c) avoiding eye contact, (e) calling police less due to perceived hopelessness and (e) avoiding pedestrian means of travel (Kelling & Wilson, 1982). The aforementioned compensations often contribute to social isolation, psychological distress, learned helplessness and community uproot (Chappell, Monk-Turner & Payne, 2011). The “Broken Windows’ theory continues to influence policing and program policies which value the identification and restoration of order to communities with aims to positively affect the mental stability of its residents. In addition, the theoretical framework provided by Kelling and Wilson (1982) aids researchers with empirically assessing significant neighborhood conditions and perceived safety (Chappell et al., 2011; Cohen et al., 2000).

The social disorganization theory (SDT). The ‘Broken Windows’ theory is related to the Social Disorganization theory (SDT) which asserts that social and physical neighborhood conditions (i.e. inadequate presence of businesses) are meaningful for the functioning of a community. However, the SDT focuses more on neighborhood control and demographics (i.e. poverty rates, racial/gender demographics, and family household structures) than the “Broken Windows’ theory (Kingston, Huizinga & Elliott, 2009). The implication of SDT is that

neighborhoods with more demographic risk factors (i.e. heterogeneity populations, low SES, and single parent homes) are more likely to encounter negative neighborhood conditions as well as difficulty maintaining social connections with neighbors (Steenbeek & Hipp, 2011; Kingston et al., 2009). Thus, the SDT provides insight into the effect of disadvantaged neighborhood structures on the level of cohesion and collective efficacy of residents.

The social disorganization theory stemmed from research by Shaw and Mckay (1942) who worked in Chicago. The theory purports that crime and harmful behaviors are increased in neighborhoods that experience difficulty with cohesion and collective efficacy (Shaw & Mckay, 1942). A community successfully regulates citizens via *neighborhood cohesion* which is defined as “the size, density, and breadth of network ties, and levels of organizational participation among residents” (Markowitz et al., 2001, p. 293). Neighborhood cohesion is harmed by instability that stems from residents fleeing poor neighborhood conditions to relocate to more advantaged community (Steenbeek & Hipp, 2011). Therefore, individuals are more likely to build meaningful relationships with neighbors and involve themselves in community enriching activities if the neighborhood structure is perceived as adequate, stable and resilient (Markowitz et al., 2001; Steenbeek & Hipp, 2011).

According to the SDT, another factor that affects behavior in neighborhoods is *collective efficacy*, which is the confidence with which people

can intervene and maintain order in neighborhood problems (Markowitz et. al, 2001; Kingston et. al, 2009). A lack of collective efficacy can lead to social isolation, harmful behaviors and poor health (Steenbeck & Hipp, 2011; Markowitz et al., 2001). Poor neighborhood conditions and perceptions of unsafe environments have been found to contribute to decreases of neighborhood cohesion and collective efficacy via the analysis of longitudinal studies (Shaw & Mckay, 1942; Markowitz et. al, 2001). The longitudinal studies also provided evidence for sensitive populations as it related to cohesion and collective efficacy. Elderly and adolescent individuals are most vulnerable to adverse effects that diminish collective efficacy and cohesion due to limited mobility and decreased physical ability to aid in the maintenance of neighborhood order (Kingston et al., 2009). One implication may be that neighborhoods with poor conditions, largely comprised of adolescents and/or elderly, are at risk for more psychological distress.

Overall, the theoretical social disorganization framework suggests that observable poor physical (i.e. graffiti, constant loud noises, litter, etc.) and social neighborhood disorder increases fear which leads to a decrease in neighborhood cohesion and collective efficacy. The decrease in neighborhood cohesion and collective efficacy allows for: (a) the sanction of serious crime due to the residents not feeling accountable or connection to their neighbors, (b) increased social isolation and neighborhood instability, (c) impaired individual wellness and

(d) increased perceptions of unsafe conditions (Steenbeck & Hipp, 2011; Kingston et al., 2009; Markowitz et. al, 2001).

Neighborhood Conditions and Perceived Neighborhood Safety Correlation

As discussed, perceived neighborhood safety is correlated with individual wellness. Yet, perceived neighborhood safety is not solely related to neighborhood conditions (i.e. can also be related to family dynamics and personal characteristics). For example, Weden, Carpiano and Robert (2008) found that neighborhood conditions as well as neighborhood affluence (i.e. high SES, adequate businesses, high educational attainment, etc.) have a significant positive correlation with the perceived quality of a neighborhood and safety beliefs. However, the limitation of that finding was that the degree to which affluence versus neighborhood conditions affected individual perceptions of neighborhood safety was not able to be parsed out (Weden et al., 2008). Lagrange, Ferraro, and Supancic (1992) noted that, of the studies that focus more on direct relationships between neighborhood conditions and perceived neighborhood unsafety, “nearly all studies report a significant relationship between incivility and fear of crime...higher levels of incivility correspond to higher levels of fear” (p.313). Examples of such studies are detailed below.

Elo, Mykyta, Margolis and Culhane (2009) examined the relationship between neighborhood conditions, crime and perceived neighborhood safety. The study found a significant overlap between one’s neighborhood conditions and

their perspectives of crime in their environment. Elo et al. (2009) measured the perceptions of women from Philadelphia using three domains of neighborhood conditions: crime and safety, physical disorder, and social disorder. They found that women reported higher levels of safety and comfort when they perceived their environment to be high in social control and aesthetically well maintained. Although insightful, Elo et al. (2009) continued the limitation theme of a lack of generalizability to other populations.

Home owners have been found to perceive neighborhoods to be unsafe based on observed incivilities more so than renters (Perkins & Taylor, 1996). One possible reason for Perkins and Taylor's (1996) finding is home owners are anchored to a given community and have less opportunity to relocate than renters. However, renters are also fearful of poor neighborhood conditions. For example, Rohe and Burby (1988) tested a sample of 267 residents from 11 North Carolina housing projects to determine the relationship between neighborhood conditions and fear of crime. No elderly residents were used for this study and residents were asked about social incivilities, physical incivilities, victimization as well as social attachments. Results indicated that residents associated fear of crime in their neighborhood with social and physical incivilities more than victimization history (Rohe & Burby, 1988). Of note, demographic factors such as age, sex and income were not found to be associated with fear of crime. The explanation offered for the lack of demographic significance was the sex and income homogeneity of the

sample (i.e. majority women and low income) (Rohe & Burby, 1988). Similar to previous studies discussed, the implied limitation of the study is difficulty in generalizing the findings to more diverse populations. Despite the limitation of generalizability, the theme of research conducted on neighborhood conditions and perceived safety appears to support the aims of the NCSS such that the identification of neighborhood incivilities can provide evidence of perceived safety on a block level.

Poor neighborhood conditions correlations with health concerns, higher rates of criminal activity, and adverse human development have been consistent (O'Brien & Kauffman, 2013; LaGrange et al., 1992; Wen et al., 2006; Austin et al., 2002). The inverse has also been shown such that positive neighborhood conditions are correlated with higher quality of life ratings (Chappell et al., 2011). One explanation for more satisfied residents may be that individuals become engulfed in their communities over time and rely on their neighborhood to conduct living tasks (Stafford et al., 2011; Beard et al., 2009). Thus, the more adequate neighborhood conditions residents are exposed to, the easier it is for them to associate with neighbors and complete daily activities.

Cohen, Spear, Scribner, Kissinger & Wildgen (2000) examined the relationship between conditions of a neighborhood and physical health (namely gonorrhea) using the James Q Wilson 'Broken Windows Theory' as a theoretical underpinning. Physical and social neighborhood conditions indicators were

classified under the *broken windows index* and census tract data was classified under the *poverty index* (Cohen et al., 2000. p. 232). Results revealed a more significant correlation between the broken windows index and gonorrhea ($R^2=.424$) than for the poverty index and gonorrhea ($R^2=.241$). Thus, Cohen et al. (2000) findings suggest that STDs and risky sexual behaviors is positively associated with poor neighborhood conditions.

Relating to mental health, Stafford et al. (2011) found that poor neighborhood conditions were associated with higher levels of depression among older adults (age 50 and older) in England. Depression was measured with the Center for Epidemiologic Studies Depression Scale (CES-D) which was comprised of eight items. Similarly, neighborhood conditions were measured with a seven item survey designed to capture indicators such as graffiti and the importance of lighting as well as social cohesion (Stafford et al., 2011). Although the seven item survey was not a validated tool, results showed a .61 correlation between neighborhood social cohesion and perceived safety indicators.

The overall findings of Stafford et al. (2011) and Cohen et al. (2000) were aligned with the aforementioned neighborhood conditions theories (Shaw & Mckay, 1942; Kelling & Wilson, 1982). However, limitations to the studies were present. Primary limitations were exclusion of many neighborhood incivility indicators and the lack of certainty that residents were responding solely based on relationships within the neighborhood (Stafford et al., 2011; Cohen et al., 2000).

For example, Stafford et al. (2011) suggested that the minimal amount of incivilities assessed may have altered their study findings in a meaningful manner. Thus, implying that information regarding what neighborhood condition indicators are most associated with perceived neighborhood safety is significant for research methods.

Measuring Significant Physical and Social Neighborhood Conditions

Indicators and Perceived Safety

Significant neighborhood features have been identified in prior studies as indicators of safety and community quality. Both physical incivilities and social neighborhood features have been found to influence an individuals' overall neighborhood perception and behaviors (Blobsaum & Hunecke, 2005; Weden et al., 2008). Researchers have the option to measure neighborhood condition indicators: (a) with objective tools (measures amount or appearance of observable indicators), (b) with subjective tools (measures individual opinions of indicators) or (c) with a combination of both objective and subjective tools (Cohen et al., 2000; Perkins & Taylor, 1996; Wen et al., 2006). Less common is assessment methods that utilize both objective and subjective aspects to assess the relationship between neighborhood conditions and perceived neighborhood safety. Combined methods of assessment are becoming increasingly more relevant in research to obtain a holistic understanding of neighborhood perceived safety. For example, Wen et al. (2006) found that the "simultaneous examination

of both objective and subjective measures of neighborhood environment is needed to advance our knowledge about how neighborhoods affects health” (p. 2576). Thus, appreciating the differences between physical and subjective indicators improves understanding of how to create assessment tools that thoughtfully combine these indicators.

Physical objective neighborhood indicator measures. As shown earlier, the terms physical indicators and physical incivilities are used interchangeably in research (LaGrange et al., 1992). Although physical indicators are not major infractions by themselves, they serve as strong precursors to the possibility of major criminal activities. Covington and Taylor (1991) found that the presence of physical indicators was significantly correlated with perceived neighborhood unsafety. Thus, it is important for researchers to not underestimate the value of environmental conditions when assessing the quality and safety of a given area.

Physical incivilities can be best assessed using objective measures as they are considered to be objective neighborhood indicators (LaGrange et al., 1992; Covington & Taylor, 1991). Objective neighborhood indicators/measures refer to “those area-level indicators that can be characterized independent of a resident’s own perception” (Weden et al., 2008, p. 1257). An example of an objective indicator question would be ‘is there abandoned homes or not?’ as the presence and quantity of abandoned homes have been linked to perceived safety (Cohen et al., 2000; LaGrange et al., 1992). However, to state that physical incivilities are

objective indicators is not to imply that they are not also subjective to a degree. Researchers are aware that minor subjectivity still exists when objectively assessing neighborhood conditions due to ratings being conducted by human beings (Austin et al., 2002). The goal of objective inquiry is to minimize the effect of the rater's opinion when appraising an area. More examples of significant objective indicators are: lighting, graffiti, litter, housing quality, unkempt lawns, vacant lots and liquor stores.

The presence of graffiti and lighting send strong messages to residents and travelers in a community. Graffiti presence details an unstable and poorly managed community where any person can commit crimes randomly (Kelling & Wilson 1982). Furthermore, Ross and Mirowsky's (2009) study found that environmental indicators such as vandalism and graffiti send messages to residents that there is a void of social control or order in their neighborhood. This realization leads the resident to feel powerless which negatively contributes to their level of psychological distress and social alienation (Ross & Mirowsky 2009; Kelling & Wilson, 1982). Rohe and Burby (1988) assessed lighting and found that inadequate lighting was strongly correlated with fear of crime. One explanation for the importance of light is that lighting improves individual perceptions of safety through increased usability of streets and a decreased likelihood of unobserved crime (Boomsma & Steg, 2014). For the purpose of this study, vandalism will be measured via graffiti presence due to the difficulty to

definitively and objectively measure other forms of vandalism via in vivo observation.

The remaining physical indicators: abandoned housing, abandoned cars, unkempt lawns, loitering (is also a social indicator), litter, liquor stores, and vacant housing/lots have all be found to be relevant when discussing perceived neighborhood safety and environmental conditions (Cohen et al., 2000; LaGrange et al., 1992; Cohen et al., 2000; Perkins & Taylor, 1996; Austin et al., 2002; LaVeist & Wallace, 2000; Robinson et al., 2003; Wen et al., 2006; Yen et al., 2006; Latkin & Curry, 2003). Similar reasoning for perceived neighborhood safety significance, aforementioned for graffiti and lighting, were noted for the remaining physical indicators. For instance, LaVeist and Wallace (2000) note that the presence of liquor stores is associated with the possibility of aggressive behaviors, alienation and loitering. Furthermore, studies have found that the more vacant and disheveled housing within a neighborhood the more psychological distressed and fearful residents self-reported (Yonas, O'Campo, Burke & Gielen, 2007; Boyle & Hassett-Walker, 2008).

It is important to note that one significant limitation of many research studies, to our knowledge, is that they did not measure any specific physical indicator effect on perceived safety when assessing more than one physical indicator in their study (i.e. finding that litter is more significant than graffiti). Thus, physical incivilities have largely been conceptualized as equal despite

having been measured on tools separately (i.e. 'is there litter?' and 'is there graffiti?'). One assumption that can be taken from the research is that each physical indicator, when found by itself, is believed to not have a significant effect on the level of perceived safety. However, if multiple physical indicators are present within a given area then residents are likely to believe there is a lack of social order in that community.

Social subjective neighborhood indicators. Social neighborhood indicators have, however, been analyzed independent of physical indicators with regard to perceived neighborhood safety. Some studies have even found that subjective indicators (i.e. loitering, panhandling and smells) are more reflective of individual neighborhood conditions appraisals, perceived neighborhood safety and individual psychosocial health than physical incivilities (Weden et al., 2008; Steptoe & Feldman, 2001; Gibson, Zhao, Lovrich & Gaffney, 2002; Porter et al., 2012). When the term social indicator is used it is often in reference to individual perceptions of human behavior and appropriate neighborhood resources (Perkins, Florin, Rich, Wandersman & Chavis, 1990). The present study measures noise level, social cohesion, odors, police presence and businesses with consideration of their theoretical and empirical significance as social indicators. (Perkins & Taylor, 1996; Kelling & Wilson, 1982; Wen et al., 2006; Austin et al., 2002; Weden et al., 2008).

Research findings regarding social indicators often utilize subjective measuring tools. Subjective measures are defined as “individual-level assessments of resident’s neighborhood in a range of domains (e.g., perceived safety, social cohesion, presence of litter and access to services” (Weden et. al, 2008, p. 1257). LaGrange et al. (1992) noted that strangers, loud noise levels, and unpleasant smells were indicators of a community with poor conditions and high levels of perceived unsafety. Despite research finding that social indicators are significant, limitations of subjective measures include: impaired validity of individual perceptions, limited ability to reproduce findings, and same source bias (Christens & Perkins, 2008). The solution to the objective vs. subjective decision is likely an assessment method that measures both indicators. However, once the determination of the type of assessment measures as been determined then the data collection methods and levels have be identified.

Prior Assessment Methods

Assessment methods have been complex when measuring the relationship between neighborhood conditions and perceived neighborhood safety. Researchers determine the method of data collection based on a variety of factors such as funding, resources and hypotheses (Wen et al., 2006). Common data collections methods include: (a) utilizing census tract/postal code information, (b) block level assessment of neighborhood conditions (captures perceived differences within a census tract), or (c) surveys/questionnaires

regarding the overall conditions and perceived neighborhood safety of a community (not specific to a postal code) (Weden et al., 2008; Cohen et al., 2000; Raudenbush & Sampson, 1999; Theall et al., 2009). Included in this section are examples of each data collection method.

Socioeconomic assessment methods. Many researchers have measured objective characteristics from a socioeconomic perspective which considers factors such as the poverty, racial, income, education, and unemployment rate of the community (Weden et al., 2008). Socioeconomic data has been measured on a census tract or postal code level (Weden et al., 2008; Pickett & Pearl, 2001; Steptoe & Feldman, 2001; Cohen et al., 2000; Wen et al., 2006). The supportive argument/hypothesis for utilizing census data is that the mere exposure and socialization with individuals of a higher socioeconomic standing may influence psychological well-being and community involvement in a positive manner (Weden et al., 2008; Massey, 1996). Another reason for census data usage is to avoid same source bias that may be prevalent with subjective assessments due to: (a) individual SES, (b) race, (c) gender, (d) age, and home owner status (Weden et al., 2008; Elo et al., 2009). However, a significant limitation, noted by Weden et al. (2008), was the lack of objective data beyond the census tract because neighborhood blocks often vary environmentally. Furthermore, studies have struggled with attempting to capture the range of demographic diversity within a neighborhood block (Weden et al., 2008).

Block level assessment methods. Block level assessments have many benefits outweighing the benefits of census/overall community assessment methods (Perkins et al., 1990). The limits of a block vs a new block is more clear than census data and data collected within a block is more similar to neighbors which helps researchers identify problem areas within a neighborhood (Perkins et al., 1990). Lastly, when enacting implications from neighborhood conditions and perceived safety research, programs are largely implemented on the block level (i.e. block associations) (Perkins et al., 1990). Considering the aforementioned benefits, some researchers have opted to utilize a block level assessment method for data collection purposes.

Driving through a neighborhood has been a popular way to conduct block level research. Raudenbush and Sampson (1999) sought to assess neighborhood blocks for different environmental features by driving slowing through blocks in Chicago, Illinois with video recorders. They obtained video data of social activities and physical features and wrote their opinions in a journal. In total, the trained researchers recorded activity on approximately 24,000 blocks (Raudenbush & Sampson, 1999). They found that physical disorder (i.e. graffiti), social disorders (i.e. loitering), physical condition of housing (i.e. dilapidated housing), and alcohol and tobacco influence (i.e. presence of liquor stores) were significant indicators that affected perceptions of safety. While this method was extensive and fruitful with respect to research findings, it suffered a significant

practical limitation. Raudenbush and Sampson (1999) data collection process was a very expensive and time-consuming task that could only be repeated by a select group of researchers. Sampson, Morenoff and Gannon-Rowley (2002) noted this limitation as well and stated that “having interviewers observe and rate city blocks on foot while they are out in the field conducting interview...could serve as a model for integrating systematic social observations with traditional surveys” (p.471) The implication being that vehicles and numerous video recorder would not be necessary.

Cohen et al. (2000) used a video tape method to assess the conditions of the physical environment as well. The authors taped each street in the block radius they were conducting the study and entered the footage into a visual database. The visual database sorted and rated the images of the environment into four categories: (a) no visible damage, (b) minor cosmetic damage (peeling paint, unkempt lawns), (c) minor structural damage (foundation, roof or termite damage), and (d) and major structural damage (often abandoned). Next the images were classified into groups based on the function of the land (i.e. school, residential, vacant, or institutional). In addition to the appearance of the structures, the authors assessed other features of the block radius such as: abandoned cars, playgrounds, vacant lots, graffiti, and garbage accumulation. Similarly, another study found a significance relationship between satisfaction with objective and subjective conditions of a neighborhood and perceived safety

as well as victimization by using a pictorial catalog of housing. (Austin et al., 2002). The same practical limitation exists for Cohen et al. (2000) and Austin et al. (2002) such that researchers void of a visual database would not be able to reproduce their study.

Other generalized assessment methods. Neighborhood perceived safety assessments, that are not contingent on block by block observations or census data, have often been conducted via surveys and specific questions on questionnaires (Austin et al., 2002; Wen et al., 2006; Roh et al., 2011; Chappell et al., 2011). Theall et al. (2009) assessed perceived fear/safety using a 4 point Likert scale (0=not at all afraid, 1=not very afraid, 2=somewhat afraid, 3=afraid, 4=very afraid) for 19 concerns. The concerns included: having someone break into your home while away, having someone break into your home while home, being raped, being hit by a drunk driver, having someone take something from you by force, having strangers hang out near your house at night, being threatened with a knife, club or gun, being beaten by a stranger, being murdered, having your car stolen, being approached by a homeless person, and finding out someone was murdered near your home (Theall et. al, 2009). One assessment limitation that can be inferred about this method of assessment is that, while the questions ask about events that occur in the neighborhood, it does not assess physical indicators.

Similarly, other various forms of Likert scale assessments have been utilized. Rasmussen, Aber and Bhana (2004) created a measure titled the Danger

Questionnaire (DQ) which was based on information they gathered from focus groups with students. They then broke the items in the measure into three sections: adolescent's perception of their personal safety in their community, their perceptions of other's safety in their community and their exposure to violence in their communities. The DQ had a 4 point Likert response scale (almost never, sometimes, often, and almost always). Funk, Allan, and Chappell (2007) used the Perceived Stress Scale, which was created by Cohen, to aid in their assessment of perceived stress and safety. An example of a question on this measure is "in the last month, how often have you been upset because of something that happened unexpectedly?" The same critique stands for both of these approaches in that they focus primarily of the perceived safety/ emotional comfort of the participant in their community. They did not seek to assess whether or not any outward characteristics of the community (e.g. litter, run-down homes) effected the emotional comfort of the participant.

Surveys are another popular way of assessing neighborhood conditions and perceived safety (Sampson, Raudenbush & Earls, 1997; Steptoe & Feldman, 2001). Elo et al. (2009) created the following surveys to aid in their assessment: Perceptions of Crime and Safety (which was a 7 question survey that measured how concerned the individual was about drug and crime activity in her environment), Physical Disorder Scale (which was a 5 question survey that inquired if disheveled lawns, abandoned buildings, trash etc. equated to a problem

in the neighborhood) and Perceptions of Social Disorder (which was 4 questions aimed at assessing whether public drunkenness, youth standing around, unemployed adults or gang activity were a problem in the neighborhood. In addition, Steptoe and Feldman (2001) created the Neighborhood Problems Scale which was used due to its focus on community wide stressors/conditions such as litter and noise from traffic. Surveys have proved to be a useful technique to utilize when soliciting subjective data.

Some studies based assessment of neighborhood conditions/perceived safety of neighborhoods on one or two specific questions within a tool rather than a specific tool for measurement (Fish et al., 2010; Shields, King, Fulks & Fallon, 2002). Fish et al. (2010) asked the question “How safe is it to walk around alone in your neighborhood after dark?” with a four point response option (extremely dangerous, somewhat dangerous, fairly safe, and completely safe) for their study. Shields, King, Fulks and Fallon (2002) asked their subjects the question “how safe they felt in their neighborhood?” that was designed to measure perceived safety. Similarly, Funk et al. (2007) measured perceived safety by asking the question “How safe do you feel from crime in your neighborhood?” in the Perceived Stress Scale.

The most similar assessment method to this study is the Block Environmental Inventory (BEI) which is now in its revised form (Perkins et al., 1992). Perkins, Meeks and Taylor (1992) measured physical incivilities (e.g.

litter), territorial functioning (e.g. one decorating their yard) and defensible space (e.g. lighting) on a block by block level. Perkins et al. (1992) found that “the social and physical environment of the community is more important for the block-level participation than are demographic characteristic or crime-related problems, perceptions and fears” (p. 106). Perkins et al. (1992) main concern of existing scales that assessed neighborhood conditions and perceived safety is that they only used negative indicators. An observed critique of the RBEI is that clarity of the scale and the language used which is alluded to in the instructions of the measure. Lastly, the most significant limitation of the RBEI is the lack of a scoring system, which makes it is difficult to compare diverse communities.

Summary

Perceived neighborhood safety is associated with physical health, human behavior as well as mental health (; Fish et al., 2010; Theall et al., 2009; Kelling & Wilson, 1982). The important difference between perceived neighborhood safety and perceive safety is that perceived neighborhood safety has a broader focus than interpersonal difficulties (Fish et al., 2010; Robinson et al., 2003; Wen et al., 2006). Encompassed in perceived neighborhood safety are: social incivilities, physical incivilities and economic indicators of a community (Perkins et al., 1992) (Austin et al., 2002; LaGrange et al., 1992; Wen et al., 2006). However, socioeconomic indicators have been found to be limited factors

related to perceived neighborhood safety independent of incivilities (Weden et al., 2008).

Researchers have found that specific social and physical incivilities, such as graffiti and loitering, are especially influential on human perceptions of neighborhood safety and human behavior (Blobsaum & Hunecke, 2005 & Weden et al., 2008). The associations between incivilities and perceived neighborhood safety have been obtained utilizing a variety of subjective and objective assessment methods on both a community and block level (Austin et al., 2002; Perkins et al., 1990; Weden et al., 2008). Much strength, such as more localized identification of problem areas, exists of block level assessment methods. The RBEI is one of the most comprehensive block level assessment measures designed to objectively assess social and physical incivilities. However, the lack of a formal scoring system for the inventory coupled with the length and complexity of the RBEI limits its effectiveness. Furthermore, the limitation theme of previous assessment methods identified in research includes: sampling concerns (i.e. identification of eligible participants), narrow assessment methods (i.e. focused on only subjective data or objective data) and lack of generalizability to broader populations/geographic regions (Latkin & Curry, 2003; Fish et al., 2010; Elo et al., 2009; Perkins et al., 1992). Researchers continue to conduct research to reproduce results of previous studies and build on the aforementioned limitations.

Chapter III: Methodology

Analysis and Researchers

The analysis of data for this study employed a quantitative approach assessing inter-rater reliability and convergent validity. The subjective indicators of the NCSS were coded so that they could be scored quantitatively along with the objective indicators. The main reasoning for placing the subjective indicator before the objective indicators was to avoid any priming affects (i.e. encouraging low ratings on the subjective indicators based on an excessive amount of undesirable objective indicators). Rather, the scale is organized so that the rater gave their subjective opinions first and then objectively attended to the environmental factors. At that point the analysis determined whether or not there was a correlation between the results of the NCSS and the RBEI. Lastly, although the subjective ratings were listed first in the scale, it is believed that the subjective ratings were the result of the individual's perception of the objective indicators on the block.

There was one team of three research raters for this baseline study. Dr. Nataka Moore, Core Faculty at the Adler School of Professional Psychology, and two doctoral level psychology students (Jasmine U. Jones, M.A. and Latrice Patrick, M.A.) analyzed each block individually via car. Dr. Moore and Ms. Jones are the creators of NCSS and thus developed the procedures for administration and scoring. Ms. Patrick was trained by Dr. Moore and Ms. Jones on

administration and scoring of the NCSS to ensure uniformity. There were no outside human subjects selected for this exploratory study.

Measures Used in the Study

Neighborhood conditions safety scale. One of the measures to be used in this study is the Neighborhood Conditions Safety Scale (NCSS). The NCSS was designed to aid in the research of the Adler School of Professional Psychology's Institute of Social Exclusion. A copy of the instrument is detailed in Appendix A. The NCSS analyzes data on a block level for both residential and retail streets/intersections. It is comprised of two sections: subjective indicators and objective indicators.

Indicators for the scale were chosen based on a two-fold process. First, a literature review was conducted to determine what indicators have been found to be reflective of neighborhood conditions. Then, a list of those indicators were compiled and voted on by the Institute of Social Exclusion research committee. The committee ranked indicators based on the level of significance each one held for making them feel they were in a community with poor safety conditions. The indicators were weighted according to that vote (with the majority ruling on each indicator).

The subjective indicator section was placed before the objective indicator section on the NCSS to avoid priming effects for the raters. The six subjective indicators are: noise level, observable sense of community and cohesiveness,

observable odors, comfortable police presence, comfortable business presence, and other observations. Descriptions of these indicators are detailed in Appendix B. The six indicators are scored using a 5-point Likert scale ranging from 'Strongly Agree' to 'Strongly Disagree'. The scores assigned to ratings range from 1-5 points. Scores derived from this section are added to a maximum combined score of 30 points.

The objective indicator section is comprised of the following nine physical neighborhood conditions indicators: graffiti/tagging, litter, lighting, abandoned buildings/housing, landscaped lawns, vacant lots, quality of housing (rundown or not), loitering, and liquor stores. A description of these criteria is outlined in Appendix B. It is important to note that, for the purposes of the NCSS, presence of litter is not considered to be a subjective neighborhood measure. The reasoning for this is because the NCSS is not designed to capture the rater's opinion of the appropriateness of litter but merely if there is litter observed at all. This goal, coupled with the definition provided for litter in the NCSS manual, makes the observation objective. The weighted scores of objective indicators (maximum total score of 70 points) was combined with the subjective indicator score (maximum total score of 30 points) for a maximum total score of 100 points. The total maximum score of both sections was then assigned a neighborhood rating that ranged from 'Highest Level of Comfort/Safety' to 'Poor Quality'.

Revised block environmental inventory (RBEI). The Revised Block Environmental Inventory (RBEI), created by Dr. Douglas Perkins, is a reliable instrument designed to evaluate social climate, crime, social demographics and individual neighborhood participation (Perkins, Florin, Rich, Wandersman & Chavis, 1990). The average inter-rater reliability for the inventory ranged from .64 to .96 for household observations such as graffiti, .79 to .99 for damaged housing ratings, and .82 for other observed incivilities (Perkins et al., 1992). In addition to established inter-rater validity, the inventory has been found to have significant criterion-related validity (Perkins et al., 1992). The RBEI assesses three major aspects of fear-related objective indicators: (a) incivilities (i.e. litter), (b) territorial functioning (i.e. yard upkeep) and (c) defensible space (i.e. lighting and protective barriers). It is to be administered in person by a trained rater. Certain sections allows for the block to be described via a description of the individuals on the block and the type of land use. The inventory also measures details about housing: type, quality, occupation, distance from the street, and quantity. Lastly, the RBEI has questions regarding: hiding places, security alarms, height of buildings, street and private lights, presence of dogs, public benches, greenery, and type of buildings on the block (Perkins et.al, 1992). The approximate administration type of the RBEI is 35-40 minutes. See Appendix C for more details on this measure.

Data Collection

Data collection occurred at the same time with all three raters present at each block. Each rater completed a separate scale for each block independently without consult from other raters. The following neighborhoods were assessed: Kenwood, West Pullman, and New City. Each neighborhood was assessed a total of 24 times (8 different blocks by 3 raters each). Block selections within each neighborhood were chosen randomly.

Thorough safety considerations were established for the data collection process. The PI was with the raters each time they surveyed community areas. The group traveled together to and from communities via car and surveyed the block in question via vehicle as well. Afterward, the group traveled to the next city block until completion. The group was mindful of safety issues and when they felt unsafe, they did not survey that particular block. The raters were prepped to address any curiosity encountered from pedestrians, however, this did not occur during this study. All raters were in possession of contact information for the other raters during the study. In addition, due to all relevant neighborhoods being located in Chicago, raters were prepared for car mechanical problems since the raters had access to public transportation to return to the Adler School campus.

Chapter IV: Results

Research Questions

The hypotheses for this study were (1) the NCSS would have significant convergent validity with the RBEI and (2) the NCSS would have significant inter-rater reliability between raters for each neighborhood.

Description of Sample

The sample consisted of 24 neighborhood blocks from 3 different established neighborhoods in Chicago, Illinois. The three neighborhoods used in this study were Kenwood, West Pullman and New City. There were 8 neighborhood blocks surveyed per neighborhood (i.e. 8 blocks from Kenwood, 8 blocks from Well Pullman and 8 blocks from New City).

Demographics

Data source. Demographic data was provided for the benefit of the reader. SES data was not a factor statistically assessed in the present study, however, it may be useful to aid with understanding the results of the study for individuals not familiar with the city of Chicago. To ensure consistency in the demographic collection process the same source, which appeared credible and detailed, was used to generate demographic information. The demographic information for each neighborhood in the study was obtained from Area Vibes which is a free public website that aids individuals in discovering areas to live. The website assigns a 'livability score' to each location that is based on certain

aspects of an area that contribute to individual satisfaction with their environment (i.e. cost of living, education, weather, housing etc.). The livability score ranges from 0-100 with a lower score being equated to a lesser desirable area. Lastly, to ensure accuracy of statistics, Area Vibes comprised its data utilizing the following sources: US Census Data, Google Places, FBI Uniform Crime Reports, Council for Community and Economic Research, United States Environmental Protection Agency and National Weather Service. The information from this source, for each neighborhood, that was used is designed to provide the reader with information relevant to objective/subjective factors that may affect their perceived safety. For more detailed information for each neighborhood, readers are encouraged to consult either Area Vibes website and/or the aforementioned sources from which it listed.

Chicago. To understand the neighborhood demographics within context it is important to discuss the demographics of Chicago according to Area Vibes. Chicago obtained a “livability score” of 70 from Area Vibes (“Chicago Demographics”, 2014). As of 2013, its total population was 2,695,598. Racially, Chicago is stated to be comprised of 42.05% Caucasians, 36.59% African Americans, 13.59% other race (“Chicago Demographics”, 2014).

The median household income for Chicago was estimated to be \$46,877 (“Chicago Employment & Jobs”, 2014) with a median housing value of \$269,200 and average rental price of \$885 (“Chicago Housing & Real Estate”, 2014).

Relating to crime, the average total crime was estimated to be 5,418 per 100,000 (“Chicago Crime Rate”, 2014). Chicago has a high school graduation rate of 71.8% (“Chicago Education”, 2014).

Kenwood. Kenwood received a livability score of 73 from Area Vibes (“Kenwood Livability”, 2014). The total population of Kenwood (as of 2000-2010) was stated to be 36,649 which includes a Black population of 76%, a White population of 16.42% and other populations comprising approximately 8% (“Kenwood Demographics”, 2014).

The median household income for Kenwood was estimated to be \$39,814 (15% lower than Chicago) with a median housing value of \$346,437 which is 28% higher than Chicago (“Kenwood Employment”, 2014). The average rental price in Kenwood is \$749 which is 15% lower than Chicago (“Kenwood Housing”, 2014). The average crime rate was estimated to be 3,780 per 100,000 which is 30% lower than Chicago. Of those crimes, the violent crimes rate is 729 per 100,000 which is also 30% higher than Chicago (“Kenwood Crime”, 2014). Kenwood has an 84% high school graduation rate which is 16% higher than Chicago (“Kenwood Education”, 2014). A caveat for the Kenwood Area vibes data is that there is an area of Kenwood (namely South Kenwood) that has drastically higher SES levels than the rest of the neighborhood. Data was collected from South Kenwood only (by coincidence), thus, these statistical

figures may minimize the appearance of South Kenwood as they factor in the entire Kenwood neighborhood.

West Pullman. West Pullman received a Livability Score of 68 (“West Pullman Livability”, 2014). The total population of West Pullman (as of 2000-2010) was stated to be 36,649 which includes a Black population of 92.29%, a White population of 3.65% and other populations comprising 4.06% (“West Pullman Demographics”, 2014). The median household income for West Pullman was estimated to be \$46,298 (1% lower than Chicago) with a median housing value of \$146,485 which is 45% lower than Chicago. The unemployment rate was 14% in 2010 compared to 10.1 percent in Chicago (“West Pullman Employment”, 2014). The average rental price in West Pullman is \$451 which is 49% lower than Chicago (“West Pullman Housing”, 2014). The average crime rate was estimated to be 7,304 per 100,000 which is 34% higher than Chicago. Of those crimes, the violent crimes rate is 1,409 per 100,000 which is also 34% higher than Chicago (“West Pullman Crime”, 2014). West Pullman has a 70% high school graduation rate which is 1% lower than Chicago (“West Pullman Education”, 2014).

New City. New City received a Livability Score of 64 (“New City Livability”, 2014). The total population of New City (as of 2000-2010) was stated to be 51,721 which includes a Black population of 36.44%, a White population of 34.05% and other populations comprising of 29.51% (“New City Demographics”,

2014). The median household income for New City was estimated to be \$34,459 (26% lower than Chicago) with a median housing value of \$154,693 which is 42% lower than Chicago (“New City Employment”, 2014). The average rental price in New City is \$453 which is 48% lower than Chicago (“New City Housing”, 2014). The average crime rate was estimated to be 7,650 per 100,000 which is 41% higher than Chicago. Of those crimes, the violent crimes rate is 1,475 per 100,000 which is also 41% higher than Chicago (“New City Crime”, 2014). New City has a 47% high school graduation rate which is 34% lower than Chicago (“New City Education”, 2014).

Descriptive Statistics

Comparisons were assessed between the NCSS and two sections of the RBEI. Due to the fact that there is not a uniformed scoring procedure for the RBEI, similar content assessed in the RBEI was compared to the NCSS in a quantifiable manner. Section “I” of the RBEI was not compared to the NCSS for statistical purposes because the content included in this section is related to the behaviors of each individual observed on the block in question. The NCSS is not designed to specifically assess the behavior of each individual. Section “II” of the RBEI (referred to as RBEI II in statistic tables) was designed to assess the ‘Block Physical Environment’ and section III of the RBEI part B (referred to as RBEI IIIB) is designed to assess the ‘Individual Property Physical Environment’ of residential properties. Both RBEI II and RBEI IIIB were content related to the

NCSS and thus were chosen for statistical comparison. From RBEI IIIB, only items 10-19 were used for statistical analysis due to the inconsistent documentation for items 1-9 for the raters and unrelated content when compared to the NCSS. Lastly neighborhood scores for the RBEI IIIB were derived by adding all of the endorsements together.

Table 1 presents the means and standard deviations for each raters by measure items on the NCSS, RBEI II and RBEI IIIB. The means and standard deviations for Table 1 are not neighborhood or block specific, rather, the data depicted in this table represent the general consensus for all of the data collected. There were strong correlations between raters for both the NCSS and the RBEI. The means for the NCSS displayed in Table 1 indicated that the three raters believed that there were sufficient lighting, limited loitering, and appropriate noise level for the time of day. However, there were specific indicators that experienced more disagreement than others.

On the NCSS, the largest discrepancies between raters occurred when observing *police presence*, *presence of strong odors* and *presence of businesses*. The means for presence of strong odors, police presence, and presence of businesses indicated that Rater 1's means were significantly different from those of Raters 2 and 3 (see table 1 for data). Furthermore, Rater 1 believed there were strong odors on the neighborhood block, limited police presence, and limited presence of businesses in comparison to the ratings from Raters 2 and 3. There

were not any notable discrepancies between raters for NCSS objective indicators. Overall, the three raters indicated that there were few amounts of: abandoned buildings and houses, unkempt lawns, graffiti vacant lots, low quality of housing, and poor observed socialization.

Ratings for the RBEI showed general agreement that there were few: abandoned cars, damage to street property, instances of graffiti, and abandoned buildings. However, the RBEI showed lower overall inter-rater correlations than the NCSS. The results noted the largest rater discrepancies for the following objective indicators: *unbroken street lights, trees or shrubs on the right of way, potholes in the street, any flower or vegetable gardens and graffiti on street property*. Further, discussion of this finding is in Chapter V.

Figure 1 shows the total NCSS scores broken down by the neighborhood and rater. The overall NCSS mean for the Kenwood neighborhood was 84.88 (correlates to a *high level of comfort/safety* rating on the NCSS). Similarly, the West Pullman neighborhood received a NCSS overall mean score of 80.38 which also correlates with a *high level of comfort/safety* rating. The New City neighborhood scored overall as 67.25 on the NCSS which correlates with an *average level of comfort/safety*. The means for each rater, within neighborhoods, did not differ meaningfully from the overall neighborhood means. The lack of significant difference supports inter-rater reliability.

Figure 2 is similar to Figure 1 except that it depicts the total RBEI II scores by the rater and neighborhood. The overall mean for each neighborhood is also provided in the figure. Overall scores for the neighborhoods were as follows: West Pullman (5.71), New City (6.96), and Kenwood (2.88). Higher scores indicate that item was present in higher quantities (i.e. a score of 3 on *item 1* means that there were 3 abandoned cars observed by the respective rater). Generally, higher scores (quantity) on the RBEI is equal to lower scores (quality) on the NCSS due to the scoring system of the NCSS differing from the RBEI.

NCSS and RBEI II/RBEI IIIB Inter-rater Agreement

Objective 1 was that the NCSS would have significant inter-rater reliability. Intraclass correlations conducted for all three raters using the NCSS, RBEI II, and RBEI IIIB across all of the neighborhood blocks (refer to Table 2). The intraclass correlation range for the NCSS was .82 to 1.00, indicating excellent rater agreement. The intraclass correlation range for the RBEI II was -.56 to .97. Of the correlations, four met acceptable criteria of above .80 and seven were in the marginal criteria of above .50. Overall the results indicated a marginal rater agreement with the raters exhibiting better agreement for some of the neighborhood blocks.

Results for the RBEI IIIB were similar. The intraclass correlation range for the RBEI IIIB was -.38 to .94. Of the correlations, six met acceptable criteria of above .80 and twelve were in the marginal criteria of above .50. Overall the

results indicated a marginal rater agreement with the raters exhibiting better agreement for some of the neighborhood blocks.

NCSS and RBEI II/RBEI IIIB Convergent Validity

Objective two was that the RBEI II and IIIB would have correlations with the NCSS that were within a range of .50 and .80, indicating good convergent validity. For rater one, the NCSS responses were significantly and negatively correlated with the RBEI II ($r = -.63, p < .01$), and significantly and negative correlated with the RBEI IIIB ($r = -.50, p < .05$). For rater two, the NCSS responses were significantly and negatively correlated with the RBEI II ($r = -.76, p < .01$), and significantly and negative correlated with the RBEI IIIB ($r = -.59, p < .01$). For rater three, the NCSS responses were not significantly correlated with the RBEI II ($r = .01, p = .95$), and not significantly correlated with the RBEI IIIB ($r = -.21, p = .32$). Based on the correlations for raters one and two, the RBEI II and IIIB demonstrated good convergent validity with the NCSS.

Total NCSS and RBEI II Scores by Block and by Rater with Overall Means

Objective three was to assess the objective and subjective indicators of neighborhood conditions and perceived neighborhood safety. Table 3 depicts the NCSS scores by block and by rater as well as the overall mean for the raters (rounded to the nearest whole number). Table 4 shows the RBEI II scores by block and by rater with the block's respective overall mean. Chart 1 and Chart 2 show the results from Table 3 and Table 4 with respect to neighborhood per rater

with the overall means. In both results from Table 2 and Table 3 (also shown in Chart 1 and Chart 2), the Kenwood neighborhood obtained a better score than its counterparts. There appears to be a larger discrepancy in the RBEI II ratings of West Pullman and New City than there were in the NCSS ratings of those neighborhoods. Possible reasons for this finding will be discussed in the discussion section.

Chapter V: Discussion

The hypotheses of this study were largely supported barring the difficulty establishing the validity of the NCSS. However, results do not suggest that the NCSS is not valid. Therefore, baseline validity and inter-rater reliability were successfully established. In addition, the NCSS results successfully replicated the results of prior studies such that the neighborhood conditions assessed presented as significantly related to perceived neighborhood safety.

Neighborhood Ratings on the NCSS

Raters scored Kenwood consistently better than the other two neighborhoods. Better ratings for the Kenwood community mean that the neighborhood blocks has the least amount of undesirable indicators and had the highest amount of perceived neighborhood safety. This finding was stronger on the NCSS than the RBEI yet is noticeable of both data sets. According to Area Vibes, Kenwood has the lowest crime rate per 100,000 as well as the highest income per capital. Similarly, West Pullman has the second lowest crime rate and second highest income per capital. The results also mimic the same trend in overall neighborhood rankings as listed for the Livability Scores for the neighborhoods. Thus, the ratings suggested that the NCSS objective indicators observed in the neighborhoods yielded safety/comfort scores consistent with the neighborhood demographics. Although, not a direct intention of this study, this suggests a correlation between neighborhood objective indicators, rater perceived

neighborhood safety and actual crime data. A future possibility of NCSS utilization as a measurement tool is assessment of the likelihood of crime on a neighborhood block and/or in a neighborhood.

Inter-rater Reliability on the NCSS and RBEI and Validity

Results suggested that the NCSS is a consistent and reliable assessment tool of neighborhood block indicators. One explanation of this finding would be that the NCSS is more forgiving when it concerns quantity. Individuals using the NCSS are asked to round their observations rather than provide exact numbers. The RBEI results suggested that, when observing a neighborhood block's exact quantity of objective indicators, uniformity is more difficult as the neighborhood block quality decreases. This could be due to some individuals being less critical of neighborhood blemishes (and vice versa) or being more focused on tallying indicators. Definitional vagueness may also alter the quantities that individuals observed on the RBEI (i.e. in the right of way VS. not and shrubs VS. leaves). Nonetheless, the complexity of the RBEI negatively affected its inter-rater reliability.

Convergent validity proved more difficult to assess with the NCSS than expected due to the lack of an established scoring system on the RBEI and components of the RBEI that assessed indicators not included in the NCSS. Attempts to circumvent this dilemma were made by only using RBEI II and RBEI IIIB items 10-19. Correlations were then observed between the NCSS and the

RBEI which suggested that the observed lower quantities of indicators on the RBEI significantly translated to better overall block quality ratings on the NCSS. An implication of this finding is that the NCSS is valid such that it successfully assessed similar content as well as obtained similar scores as the RBEI, which is a validated tool. Overall, despite the differences between the RBEI and the NCSS, the intra-rater scores were consistent overall on both tools for the neighborhoods.

Rater differences on the RBEI II

Results showed that significant scoring differences existed between Rater 2 and Rater 3. It is unclear what factors contributed to the vast differences in the quantity of observed indicators. One explanation is the different vantage points of the raters as the data was collected while in a vehicle. The practical implication of this hypothesis is that the rater in the backseat of the vehicle had a different view point than the two passengers in the front seat of the vehicle. However, the rater difference between Rater 2 and Rater 3 were not observed on the NCSS which suggests another causality for the differences on the RBEI II.

The ratings on the RBEI were more sensitive to statistical analysis due to the increased need for accuracy and low quantity of raters. The RBEI has a smaller margin for error to establish inter-rater reliability. Thus, a probable explanation for the variability on the RBEI is the need for more uniformed training on the assessment tool. Misunderstandings and confusion are more likely

to occur when using the RBEI as aforementioned so more intense training may be beneficial in the future.

Conclusions

The research questions for this study were that the (1) NCSS would have significant convergent validity with the RBEI, (2) and the NCSS would have significant inter-rater reliability for each neighborhood. With regards to the first research question, major roadblocks arose when attempting to statistically establish convergent validity between the RBEI and the NCSS. One of the major challenges was the lack of the scoring symptom on the RBEI. Overall, evidence for convergent validity were present but the validity of the tool would benefit from future assessment. The second research question proved to be accurate such that, as currently designed, the NCSS has excellent inter-rater reliability that far exceeds the inter-rater reliability found on the RBEI.

Given the results of this exploratory study, it is believed that the research objectives were met. The data collected served to successfully determine a baseline for the inter-rater reliability of the NCSS to be replicated in future research. The question of convergent validity highlighted unpredicted areas of weakness for the establishment of the validity of the NCSS, which will aid with the research design of future studies.

Limitations. As suspected, a significant limitation to this research study was the rater sample size of 3. It is likely that the sensitivity of the RBEI ratings

would have been further minimized if there were more raters. More raters would have lessened the statistical effect of one individual that disagrees on the exact quantity of an indicator being addressed and would have provided more clues to determine why some individuals observed different amounts.

No evidence for aversive effects of same source bias were present.

However, it may be likely that positive ratings may have been attributed to the same source bias phenomenon such that individuals who felt safer in a community was less criteria of the objective factors. If a positive same source bias occurred, it provides evidence with significant implications. Individuals who feel comfortable in a community are less likely to believe that the community would benefit from objective changes or requires improvement. Such individual may be resistant to environmental, psychological and structural interventions.

Training was provided to lessen the possible limitation of variability of time of day and observations. Raters surveyed neighborhood blocks at the same time and on the same day to avoid the possibility of different observations. Raters were also sensitive to indicators that were time of day sensitive (i.e. assessing working street lights at would not be on during the day). However, the data was collected via a vehicle (for safety reasoning) and this could have affected the data collection process. Lastly, the community limitation for this study was present. Only 8 blocks per neighborhood were observed and it is not guaranteed that all of the blocks in a neighborhood appear similarly. Thus, the data should be

interpreted as a sample of the neighborhood rather than a reflective of the quality of the neighborhood as a whole.

Necessary scoring changes to the NCSS were highlighted during this study. First, the scoring for 'Illegal Graffiti/Tagging' is backwards. The scale should award 5 points for an answer of 'no' and 1 point for an answer of 'yes' for this indicator. Similarly, the scoring for Landscaped Lawns should be reversed (i.e. 5 points for 'all' scores etc.). The results were scored with these corrections to ensure an accurate image of the rater's observations. Due to the fact that rater's scoring was based on word quantifiers (i.e. all, half, yes etc.) changing the number score attributed to the quantifier (unknown to the rater) is not perceived to have altered the data. Another change that was observed during the statistical analysis was the need to adjust the weights for certain items. More specifically, the weights for the 'Presence of Liquor Stores', 'Loitering' and 'Landscaped Lawns' should be altered. Preliminary interpretations suggest that 'Landscaped Lawns' be weighted more heavily while the others be weighted less. Regarding weighting, the NCSS scoring system is forgiving due to the larger ranges for neighborhood ratings. Possible narrowing of the neighborhood rating ranges may be necessary to further establish inter-rater reliability.

Implications. The implications of the results of this study are two-fold and significant. For policy makers, the NCSS successfully provided both subjective and objective data as it related to perceived neighborhood safety and

neighborhood conditions. Standardized assessment of various neighborhood blocks, utilizing the NCSS, also yielded data comparable to crime statistics provided by Area Vibes. Thus, the NCSS may have predictive validity that would support the need for policy intervention in at risk neighborhoods.

In addition, the NCSS may be utilized for both assessment and monitoring purposes by community members. Community members and organizers can administer the NCSS on neighborhood blocks to increase their level of insight and awareness. Awareness building may occur on both a neighborhood condition and perceived neighborhood safety level. Regardless of the type of insight gained from community members' assessments, improved insight and awareness may lead to restorative actions taken by community members. Community organizers can use the obtained data from the NCSS to form neighborhood block associations, community clean-up date and more to help aid in the improvement of physical conditions of their neighborhood as well as perceived neighborhood safety. As stated in Chapter II, improvements in perceived neighborhood safety have positive impacts on the overall mental health of residents. Furthermore, a useful factor of the NCSS is that it does not have a limitation on the number of times it can be administered on a given block. Thus, once restorative actions have been implemented, community members can reassess and monitor their progress utilizing the NCSS.

Recommendations for future research. Future research utilizing the NCSS would benefit from an increase in the data collection. The NCSS has a significant potential to be a useful assessment tool, however, more data must be collected from the neighborhoods to ensure its accuracy. With an increase in data collected, the NCSS would benefit from an increase in raters as well. The scoring changes noted in the measure should be implemented in the NCSS and the scoring system would benefit from being reassessed to determine how it can improved its sensitivity to rater scorings. If possible, a future study would benefit from observing neighborhood blocks on foot to allow the raters more time to assess objective factors. Individual safety must always be a primary factor when considering other modes of data collection. The establishment of validity should also be the primary focus from the following study utilizing the NCSS (i.e. predictive validity). Lastly, a significant future study would incorporate more detailed crime statistics and cross reference crime on a block-by-block basis with the NCSS ratings. This would provide critical information related to the relationship between actual crime, objective indicators and perceived safety.

Overall, the NCSS effectively addressed a gap in research regarding researcher's ability to objectively assess perceived safety/comfort in a reliable time-friendly, direct, and user-friendly manner. As with any exploratory study, areas for growth were identified. However, the NCSS proved that its design is structurally sound and it is successfully assessing neighborhood indicators

identified in research that contribute to perceived safety. Thus, the future is bright for the NCSS.

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Appendix A

October 8, 2013

Dear Jasmine Jones,

The Institutional Review Board evaluated the changes to your application, proposal #13-063, *Neighborhood Conditions Safety Scales (NCSS): Exploratory Study Focused on Assessing the Concurrent Validity with RBEI, Inter-rater reliability and Practical Implications*. Your application has now received **Full Approval**. This decision means that you may proceed with your plan of research as it is proposed in your application.

Please note that if you wish to make changes to your procedures or materials, you must provide written notification to the IRB in advance of the changes, co-signed by your Dissertation Chair, Dr. Moore. **You may not implement those changes until you have received a Full Approval letter from the IRB.** Please feel free to contact myself or other IRB committee members should you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Peter Ji".

Peter Ji, Ph.D

Core Faculty, Psy.D. Program in Clinical Psychology

Co-Chair, Institutional Review Board

Adler School of Professional Psychology

Scoring Sheet

Indicator	Value	Score
Illegal Graffiti/Tagging	Yes=5 No=1	
Litter	No=5 Yes=1	
Lighting	Sufficient=10 Insufficient=1	
Abandoned Buildings/Housing	None=10 Some=8 Half=6 More Than Half=4 All=2	
Landscaped Lawns	None=5 Some=4 Half=3 More Than Half=2 All=1	
Vacant Lots	None=10 Some=8 Half=6 More Than Half=4 All=2	
Quality of Housing	None=5 Some=4 Half=3 More Than Half=2 All=1	
Loitering	No=10 Yes=5	
Presence of Liquor Store(s)	No=10 Yes=5	
	Total Possible Score: 70	Actual Score:
Additional Indicator	Value	Score
Noise Level	Strongly Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly Disagree=1	

Socialization/Sense of Community (See Descriptors)	Strongly Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly Disagree=1	
Presence of Strong Odors	Strongly Disagree=5 Disagree=4 Neutral=3 Agree=2 Strongly Agree=1	
Police Presence	Strongly Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly Disagree=1	
Presence of Businesses (Excluding Liquor Stores)	Strongly Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly Disagree=1	
Other Subjective Observations of Safety	Strongly Agree=5 Agree=4 Neutral=3 Disagree=2 Strongly Disagree=1	
	Total Possible Score: 30	Actual Score:
	Total Score (Obtained by adding total "Indicator" score with total "Additional Indicator" score) →	

100-81=Highest Level of Comfort/Safety, many important neighborhood conditions are present
80-61= High Level of Comfort/Safety, some important neighborhood conditions are present
60-41= Average Level of Comfort/Safety, important neighborhood conditions are present but room for improvement
40-21=Low Level of Comfort/Safety, minimal important neighborhood conditions are present
20 and below=Poor Quality, important neighborhood conditions are absent.

Description of Indicators

Illegal Graffiti/Tagging: Graffiti by definition refers to the pictures and/or writings drawn, painted, or marked in any combination on public property. Typically, illegal graffiti/tagging is unsanctioned artistic expression that refers to gang members writing their group's motto, sign, and/or initials on public property in attempts to either memorialize other members, celebrate their gang affiliation, mark territory or send messages to enemy gangs. In addition, 'crews' (which are small groups of individuals who have allied themselves for a shared purpose) also engage in illegal graffiti/tagging for similar purposes of gangs. See Appendix B for image examples.

Litter: When observing street litter, any solid or liquid material, product, or combination of the two that is discarded on public property should be noted. Examples of litter disposed on public property may include: 1.) any garbage, paper, bottle, can, container or sewage, 2.) any raw or processed material, abandoned motor vehicle or other machinery, 3.) any food and/or edible items. See Appendix B for image examples.

Lighting: Observations of lighting should include the presence of raised street lights, lampposts and/or light standards. Often, these light sources are separated by wires and/or telephone poles. If observing at night a second observation should be noted, this is whether or not these sources of light, located above the edges of the road or walkway, are turned on or off. See Appendix B for image examples.

Abandoned Buildings/Housing: Abandoned buildings and/or housing can best be described as uninhabited/no longer legally used man-made structures that may have been boarded closed/condemned or visibly dilapidated (rundown). See Appendix B for image examples.

Landscaped Lawns: When observing the presence of landscaped lawns the observer should note if: the greenery/lawns in the area have been tended to/mowed, if there is a presence of added shrubs/flowers to improve the beauty of the area, and if the lawns are free of litter/weeds. It is important that the rater base the rating on seasonal appropriateness. See Appendix B for image examples.

Vacant Lots: A vacant lot is simply any area of land in which there is no permanent buildings and/or structures. See Appendix B for image examples.

Quality of Housing: When observing the outward appearance of housing in the area, the conditions of the structure of the housing should be considered. Examples of undesirable conditions of the housing include, but are not limited to: broken windows, chipped paint on the housing structure, broken/damaged fences and broken or damaged front doors. It should also be noted if the housing appears visibly rundown in other ways not mentioned here. See Appendix B for image examples.

Loitering: For the purposes for observation scale, loitering includes, but is not limited to individuals who remain or wander around a public place: for the purposes of begging, gambling, soliciting others for prostitution, to congregate with peers, and/or to solicit others for participation in other illegal activities (i.e. drugs) See Appendix B for image examples.

Presence of Liquor Store(s): Observation of the presence of liquor stores involves solely noting whether or not a liquor store exists in the observed area. See Appendix B for image examples.

Descriptions of Additional Indicators

Noise Level: The subjective observation of noise level is based on the rater's judgment if the noise level is average for both the time of day (morning, noon, or night) and the environment (i.e. residential street or busy retail strip). The rater should circle the *Strongly Agree* option if they find the noise level to be completely safe and comforting. If not, the rating should circle the appropriate statement that best captures their comfort/safety level. Lastly, it is important the rater then explain why they circled their answer in the *Explain* section.

Sense of Community and Cohesiveness: The sense of community and cohesiveness indicator is designed to seek the rater's observation of the interaction of individuals in the observation area. The rater should circle *Strongly Agree* if individuals are communicating with one another in a way that makes him/her feel that the neighborhood is close knit, friendly, and cooperative with one another. This may create an inviting and safe environment for the rater. If not, the rating should circle the appropriate statement that best captures their comfort/safety level. Lastly, it is important the rater then explain why they circled their answer in the *Explain* section.

Strong Odors: The presence of strong odors indicator is designed to capture the rater's opinion of the smell of the atmosphere of the observed area. Inappropriate

odors may include urine (outside of a restroom) or rotting garbage (outside of the trashcan). The rater should circle *Strongly Agree* if the odors in the area are appropriate (i.e. near a bakery, near a trash disposal) and do not cause feelings of discomfort while observing. If not, the rating should circle the appropriate statement that best captures their comfort/safety level. Lastly, it is important the rater then explain why they circled their answer in the *Explain* section.

Presence of Business(es): Observation of the presence of businesses involves solely noting whether or not businesses exist in the observed area that increase the rater's comfort/safety level in the community. Business includes: clothing stores, banks, food establishments and any other business excluding liquor stores. The rater should circle *Strongly Agree* if the different types of businesses in the area are appropriate for the environment (i.e. residential vs. retail street) and makes them feel safe/comfortable in the observation area. . If not, the rating should circle the appropriate statement that best captures their comfort/safety level. Lastly, it is important the rater then explain why they circled their answer in the *Explain* section.

Police Presence: The observation of police presence is based on the rater's opinion of whether or not the presence of police is reasonable given the time of day (morning, noon or night) and the environment (residential vs. Retail Street). The rater should circle *Strongly Agree* if the presence of the police is normal/appropriate and thus not discomforting for the rater. If not, the rating should circle the appropriate statement that best captures their comfort/safety level. Lastly, it is important the rater then explain why they circled their answer in the *Explain* section.

Other Subjective Observations: In this section, the rater has the ability to rate other factors that make them feel safe or unsafe in the observed area. If there were other observations that were only comforting to the rater and made him/her feel safe in the community then the rater should circle *Strongly Agree*. If not, the rating should circle the appropriate statement that best captures their comfort/safety level. Lastly, it is important the rater then explain why they circled their answer in the *Explain* section.

Appendix C

(note** Dr. Perkins is the creator of the RBEI. He is not a member of the research team. The RBEI is being used to aid in the question of concurrent validity of the NCSS)**

REVISED BLOCK ENVIRONMENTAL INVENTORY

INSTRUCTIONS

A general comment must be stressed at the outset. Problems with confusing block boundaries, with occasional errors in filling out the inventory and with the inventory itself, such as classification ambiguities, are bound to arise. The success of the project depends on such issues being brought into the open as they come up and not resolved independently by each observer or team. Thus, when you have a question about the boundaries of a block or about how to code something, or feel that a category or question is either unclear or inadequate (in that it misses important information), it is critical that you do the following:

1. **Do not discuss how you rated something with your teammate until after you have both recorded that rating. DO NOT change any completed ratings** based on such conversations. BEFORE discussing an item with your teammate, check the following directions, project maps and other materials. The issue may have come up previously in which case there should already be an unequivocal answer spelled out.
2. If you still have any question about the correct course of action and your supervisor is available, ask him/her to help resolve the issue before proceeding.
3. If all of the above are unavailable, write down your thoughts and observations clearly and bring them to the attention of Dr. Perkins at a later time. The decision will have to be based on your notes and recollections and so, to avoid a special trip back to the block in question, try to be as careful as possible. You will be acting as the investigators' eyes and ears, in a very real sense. And, in general, your ideas will be quite helpful in making this project a successful endeavor.
4. If the issue cannot wait and there is no way of contacting any of the above, you must discuss the issue with your teammate and any other available project members and make the decision yourselves. Write down thoroughly the rationale for the decision.

Talk to your designated assessment partner and schedule a time to do your data collection. You do not have to do all 3 of your assigned blocks in one visit, but **all assessments must be done between 5 PM and 8 PM on a weeknight OR between**

noon and 8 PM on a Saturday or Sunday.

What to take to conduct an assessment:

1. A copy of these instructions.
2. Environmental Inventory forms (including a couple extra copies in case you have to start over).
3. A detailed street map of the entire area with your assigned blocks clearly identified.
4. A clipboard or notebook and several sharpened pencils.
5. Extra copies of the PGEI Overview to offer anyone who asks what you are doing (if this happens, after the person leaves, note what was said and where it occurred, including the exact address if possible). Try to answer their questions and please be as polite as possible-- we will be surveying sample homes from the same blocks you are assessing.

The following is a brief description of the questions in the Environmental Inventory. It is important to review these instructions and the checklist itself thoroughly before going to the field site so any questions can be answered. Finally, check to see that the street name, block number, and cross streets have been filled in.

When you arrive at the designated block

First, when you get to an assigned block, check carefully to make sure that the street signs match the stated boundaries on the checklist and on the map. The block includes both sides of the street and the properties on all adjacent corners (including corner properties facing side streets, but not corner properties across boundary streets). When you are sure you're at the correct block, fill in the exact starting time.

I. Social Environment

As soon as you have recorded the time, conduct Part I (i.e., of all people anywhere outdoors on the block over a one-minute period). It is important to do this first so as to avoid counting those who might come outdoors because of your presence. (If someone does ask what you are doing at any time (not just during Part I), summarize what is said in one of the comments sections on page 2 and write down the address you are closest to and, if different, the address they came from.) It is important for you and your partner to do this at precisely the same time. Try to choose a vantage point where you can see the entire block (e.g., near middle of block). **Please be as discreet as possible.** Try to guess the sex and approximate age of each person, even if it is difficult to do so. Briefly describe their behavior. Circle or put in brackets individuals you have

listed who are engaged in some group activity. If someone is doing the identical behavior of the person listed above them, you may use " " to indicate "same."

II. Block Physical Environment

When the minute is up and you have finished section I, go up and down the block once (either by foot or car) keeping a tally of all the items in section II. Use the dotted area for the tally and the right_hand lines for the exact total. At the bottom of this section, check whether the block has sidewalks and curbs and gutters.

1. Count a car as abandoned if it does not appear to be drivable (i.e., has shattered windows, dismantled parts, has been in a wreck, or has one or more flat or missing tires).
- 2-3. Damaged or graffiti painted public property would include signs, street lights, street trees, fire hydrants, etc. Count graffiti only if it is a painted name, design, or a mark that you could not cover with one hand. Count damage or graffiti just once per vandalized object (i.e., do not count multiple marks on a sign or the sign separately from its post).
4. Street lights include both high traffic lights and low pedestrian lamps. If the light is broken, count it under #2, but not here.
5. An unboarded abandoned building is not only vacant, but is dilapidated, has overgrown grass, weeds or shrubbery, or several broken windows.
6. "Boarded abandoned buildings" need not look dilapidated.
7. "For sale" or "Sold" signs may be on lawn or window of either private or commercial property.
8. Do not count ordinary corner street signs as neighborhood, block or block watch "identifiers" (rather, they will typically read "Welcome to ... block" or "This block protected by...").
9. "Street" trees or shrubs are on the "right of way", which includes the strip between the sidewalk and the street and is public property.
10. Count a pothole if it is bigger than your foot. Do not count cracks.

III. Individual Property Physical Environment:

At the top of the second page, start over at the beginning of the block (starting with the lowest number address), walk down one side of the street and then the other, filling out sections **A (All Nonresidential land uses)** and **B (Residential Property**

Sample) simultaneously. For most items in Section III, unless otherwise indicated, write 1 for "yes", 2 for "no." Some items ask instead for an exact number ("How many...") or percentage ("What %..."). You may go onto the property, if necessary, for part A, but try to avoid stepping onto residential property (Part B). Use the space provided and, if necessary, additional pages, for any comments or questions you might have and note the category number, letter and, where appropriate, address it refers to.

For Part A, write down the address (just the number) of every nonresidential land use on the block and classify the type. For open land uses, such as parks, and large institutional (e.g., church, school) yards, give the range of possible addresses (ex: "601-699 South 1000 West"). So as to avoid confusion, be sure to use the correct abbreviation: STore, OFfice, CHurch, SCHool, PARk, PARking LoT, PLayground, Garden, Empy, OTher. If "OT" describe by address under comments. If mixed use, indicate each in bottom to top order (e.g., ground floor is a store and upper floor(s) are residential (ST/R) or offices (ST/OF)). It is especially important to note "eyesores," such as vacant lots ("E") with abandoned cars, overgrown lawns, etc.

For Part B, start with the lowest number address of a private home, walk down one side of the street at a time and, if there are 8 or fewer residential properties on the entire block, fill out Part B for every property. If there are more than 8 residential properties, evaluate every third house or apartment building. That is, skip two each time: e.g., you might do address #600, #606, #612, etc. (If no #600, you would do #601, #607, #613; or if the numbers run 600, 604, 608..., you would choose #600, 612, 624...). Stop when you have completed part B on 8 properties. If you finish the block and have not assessed at least 8 properties, start over and do the second (#02), fifth (#08), and eighth (#14) properties, etc., until you have completed 8. If you complete 8 properties for B before the end of the block, do not forget to look for nonresidential properties (Part A) on the rest of the block. When you finish a block, record the time at the top of the front page. Items 2-15 in Part A are identical to those in Part B and so will be explained just once:

2. Observing from sidewalk, indicate: 0 if there are no "traces" of people present at that address; 1 if you see any inanimate objects that have been left by someone outside (e.g., car in driveway, toy or tool on lawn or porch) but no "animate" traces; 2 if you see or hear any people (incl. television or stereo on) inside or outside at that address.
3. Imagine if all street (up to half way across), sidewalk, and yard litter (including overflow from trash cans) were swept up; if you could not cover up the pile with 1 foot, indicate 1 (yes).
4. Count graffiti only if it is a painted name, design, or a mark that you could not cover with one hand. Count damage or graffiti just once per vandalized object (i.e., do not count multiple marks on a garage door).

5. Include as broken windows that are visibly cracked; these sometimes have tape along the cracks. Broken fixtures to look for include exterior lights and "personalizations" (see #16, below).
6. Include any unpatched cracks or broken sections of brick, stucco, sidewalk, or driveway that are at least one foot long.
7. Estimate the percentage of the surface of all exterior paint (including trim) that is cracked or peeling).
8. Indicate yes (1) if there is at least 1 square yard of lawn that is either higher than 6 inches (about your thumb to forefinger spread wide), or brown, or has more than just 1 or 2 visible weeds.
9. Count the number of unbroken outdoor **lights** on the property (i.e., not street lamps). Look near front door, porch, garage, and sidewalk.
10. Include any type of **window barrier**. Check front and side windows, doors, and especially basement windows.
11. Any evidence of a **dog** living there (dog house, "beware of dog" sign or droppings on the lawn. Do not count droppings along street or sidewalk.
12. Look for various "**security**" signs (e.g., alarm, "Operation I.D.," patrol, or "block watch" stickers) on doors and windows near doors. If you see an alarm or its wires, code this a 1 (yes).
13. Count the number of **trees** (of any size) on private property and visible from the street.
14. Include anything that appears to be intended as a **garden**, unless it is an empty bed.
15. A "stoop" (front steps) should be included if the steps or low wall are at a comfortable height for sitting (2_3 feet).
16. A "**barrier**" is a wall, fence, or hedge of any sort or height. 0 if none; 1 if it surrounds just part of property (e.g., backyard perimeter only); 2 if around the perimeter of the entire property.
17. "**Personalization signs**" include family names, initials, emblems, ornaments, fancy address signs (but not regular address numbers). Look for these on doors, mail boxes, lampposts, welcome mats, windows, and gates and record the total number.

18. **Decorations** include any statuettes, planters, window boxes, awnings, etc., that were not counted in 16. Do not include plants inside windows. Again, record the exact number.
19. **Home improvements** include current or recent construction additions, such as a new garage or car port, porch or deck, addition (room), aluminum siding, driveway resurfacing, landscaping, etc.
20. Indicate by first initial whether the **roof** appears to be New (or is being replaced), in Average condition, or in obvious need of Repair (e.g., missing shingles).

REVISED BLOCK ENVIRONMENTAL INVENTORY

Date: m ____ d ____ y ____ Time started: _____ AM/PM Time finished: _____
 Street name _____ 100 Block: _____
 Cross streets: _____ & _____
 Rater _____ 0 1 2 3 4 5 6 7 8 9

Rater number: # ____ digit 1 o o o o o o o o o o
 digit 2 o o o o o o o o o o

Block number: # ____ digit 1 o o o o o o o o o o
 digit 2 o o o o o o o o o o

I. Social Environment: List each person by sex who are outside on street or private property at any time for one minute. Estimate age & briefly describe their behavior. Bracket on right groups that are together. **DO NOT WRITE CLOSE TO DOTS!** Use reverse side for additional comments.

BEHAVIOR (P=pedestrian; W=working; H=hanging out; O=Other activity)
SEX AGE 10- 15- 20- 30-
 M F <10 14 19 29 59 60+ P W H O Comments (use reverse if nec.)

o o o o o o o o o o o o o o 1. _____
 o o o o o o o o o o o o o o 2. _____
 o o o o o o o o o o o o o o 3. _____
 o o o o o o o o o o o o o o 4. _____
 o o o o o o o o o o o o o o 5. _____
 o o o o o o o o o o o o o o 6. _____
 o o o o o o o o o o o o o o 7. _____
 o o o o o o o o o o o o o o 8. _____
 o o o o o o o o o o o o o o 9. _____

10. If > 9, how many total? What are the others doing? _____
 10 11 12 13 14 15 16 17 18+

o o o o o o o o o o

II. Block Physical Environment: Yes No

11. Does the block have **sidewalks**?..... o o
 12. Does the block have **curbs and gutters**? o o

How many of the following are on the whole block? 0 1 2 3 4 5 6 7 8+

1. **Abandoned** (undrivable, damaged) **cars** on street. o o o o o o o o o o
 2. **Damage on street property**, broken street lights o o o o o o o o o o
 3. **Graffiti** on street property (incl. signs)..... o o o o o o o o o o
 4. **Unbroken street lights**..... o o o o o o o o o o
 5. **Unboarded abandoned buildings** (not just vacant) o o o o o o o o o o
 6. **Boarded abandoned buildings**..... o o o o o o o o o o

- 7. **"For sale" signs**..... 0 0 0 0 0 0 0 0 0
- 8. **Block, neighborhood or crime watch signs**..... 0 0 0 0 0 0 0 0 0
- 9. **Trees or shrubs on the "right of way"**..... 0 0 0 0 0 0 0 0 0
- 10. **Potholes in the street**..... 0 0 0 0 0 0 0 0 0

[COPY THIS PAGE AS MANY TIMES AS NEEDED]

III. Individual Property Physical Environment: Block #: __ __ Rater #: __ __

A. All nonresidential land uses. ST OF C SC PK PL PG G E OT
Type: STore, Office, Church, School, ParK,
Parking Lot, PlayGround, Garden, Empy, Other

0 0 0 0 0 0 0 0 0 0
 0 1 2 3 4 5 6 7 8 9

Address: digit 1 0 0 0 0 0 0 0 0 0
 digit 2 0 0 0 0 0 0 0 0 0
 digit 3 0 0 0 0 0 0 0 0 0

Indicate how many of the following: digit 4 0 0 0 0 0 0 0 0 0

- 1. **Barrier:** 0=none; 1=on property; 2=perimeter.. 0 0 0 0 0 0 0 0 0 0
- 3. **Traces of people:**0=none,1=inanimate,2=animate 0 0 0 0 0 0 0 0 0 0
- 4. Pieces of **litter** on & in front of property... 0 0 0 0 0 0 0 0 0 0
- 5. % exterior **paint peeling** X 10 (1=10%,2=20)... 0 0 0 0 0 0 0 0 0 0
- 6. Unbroken **outdoor lights** on the property..... 0 0 0 0 0 0 0 0 0 0
- 7. **Trees** on the property..... 0 0 0 0 0 0 0 0 0 0

Indicate no or yes: No Yes

- 10. Any **graffiti** on property?..... 0 0
- 11. Any **broken windows or fixtures (incl. lights)?**..... 0 0
- 12. Any **cracked brick, concrete (incl. driveway, sidewalk)?** 0 0
- 13. Is **lawn** in poor condition (>6in., brown, weeds)?..... 0 0
- 14. Do any windows or doors have **security bars or gates?** 0 0
- 15. Any sign of a **dog** (e.g., house, droppings, "beware")? 0 0
- 16. Any **security, alarm, property ID, block watch signs?** 0 0
- 17. Any **flower or vegetable garden** on the property?..... 0 0
- 19. Any **place to sit** outside (bench, swing, stoop)?..... 0 0

[COPY THIS PAGE AS MANY TIMES AS NEEDED]

III. Individual Property Physical Environment: Block #:__ __ Rater #:__ __

B. Sampled Residential Properties (all addresses in sample list)

0 1 2 3 4 5 6 7 8 9

Address: digit 1 0 0 0 0 0 0 0 0 0
 digit 2 0 0 0 0 0 0 0 0 0
 digit 3 0 0 0 0 0 0 0 0 0

Indicate how many of the following: digit 4 0 0 0 0 0 0 0 0 0

- 1. **Barrier:** 0=none; 1=on property; 2=perimeter.. 0 0 0 0 0 0 0 0 0 0
- 2. **Roof condition:** 0=new,1=avg,2=needs repair... 0 0 0 0 0 0 0 0 0 0
- 3. **Traces of people:**0=none,1=inanimate,2=animate 0 0 0 0 0 0 0 0 0 0
- 4. Pieces of **litter** on & in front of property... 0 0 0 0 0 0 0 0 0 0
- 5. % exterior paint peeling X 10 (1=10%,2=20)... 0 0 0 0 0 0 0 0 0 0
- 6. Unbroken **outdoor lights** on the property..... 0 0 0 0 0 0 0 0 0 0
- 7. **Trees** on the property..... 0 0 0 0 0 0 0 0 0 0
- 8. **Personalizations** on the property..... 0 0 0 0 0 0 0 0 0 0
- 9. House, yard or window **decorations**..... 0 0 0 0 0 0 0 0 0 0

Indicate no or yes: No Yes

- 10. Any **graffiti** on property?..... 0 0
- 11. Any **broken windows or fixtures (incl. lights)?**..... 0 0
- 12. Any **cracked brick, concrete (incl. driveway, sidewalk)?** 0 0
- 13. Is **lawn** in poor condition (>6in., brown, weeds)?..... 0 0
- 14. Do any windows or doors have **security bars or gates?** 0 0
- 15. Any sign of a **dog** (e.g., house, droppings, "beware")? 0 0
- 16. Any **security, alarm, property ID, block watch signs?** 0 0
- 17. Any **flower or vegetable garden** on the property?..... 0 0

18. Any current or recent **home improvements**?..... o o

19. Any**place to sit** outside (bench, swing, stoop)?..... o o

Tables

Table 1

Means and Standard Deviations for Raters by Measure Items

Measure Items	Rater 1 <i>M (SD)</i>	Rater 2 <i>M (SD)</i>	Rater 3 <i>M (SD)</i>
NCSS Illegal Graffiti	1.17 (0.82)	1.00 (0.00)	1.50 (1.35)
NCSS Litter	3.33 (2.01)	3.33 (2.01)	3.00 (2.04)
NCSS Lighting	10.00 (0.00)	9.25 (2.54)	9.63 (1.84)
NCSS Abandoned Buildings Housing	8.33 (1.93)	7.92 (2.39)	7.58 (2.76)
NCSS Landscaped Lawns	3.00 (1.59)	3.08 (1.77)	3.33 (1.74)
NCSS Vacant Lots	8.92 (1.86)	8.67 (2.18)	7.75 (2.45)
NCSS Quality of Housing	4.25 (0.99)	4.21 (1.06)	3.25 (1.73)
NCSS Loitering	9.79 (1.02)	9.79 (1.02)	8.96 (2.07)
NCSS Presence of Liquor Store	9.58 (1.41)	9.79 (1.02)	9.79 (1.02)
NCSS Noise Level	4.33 (0.87)	4.04 (0.69)	4.83 (0.64)
NCSS Socialization Sense of Community	2.71 (1.27)	3.00 (1.06)	2.88 (1.30)
NCSS Presence of Strong Odors	2.17 (1.76)	3.83 (0.56)	4.83 (0.82)
NCSS Police Presence	1.75 (1.22)	3.29 (0.95)	4.29 (0.95)
NCSS Presence of Businesses	1.63 (1.13)	4.50 (0.83)	4.50 (0.88)
NCSS Other Subjective Observations of Safety	3.58 (1.28)	3.21 (1.14)	2.88 (1.30)
RBEI II Item 1 (abandoned cars on street)	0.00 (0.00)	0.00 (0.00)	0.13 (0.61)
RBEI II Item 2 (damage on street property)	0.08 (0.41)	0.00 (0.00)	0.00 (0.00)
RBEI II Item 3 (graffiti	0.04 (0.20)	0.04 (0.20)	0.67 (1.79)

on street property)			
RBEI II Item 4 (unbroken street lights)	1.71 (2.66)	0.00 (0.00)	2.54 (2.77)
RBEI II Item 5 (unboarded abandoned buildings)	0.54 (1.64)	0.21 (0.41)	0.29 (0.46)
RBEI II Item 6 (boarded abandoned buildings)	1.71 (2.48)	1.96 (2.49)	1.54 (2.23)
RBEI II Item 7 (“for sale” signs)	0.25 (0.74)	0.17 (0.48)	0.08 (0.28)
RBEI II Item 8 (block, neighborhood/crime watch sign)	0.33 (0.82)	0.08 (0.41)	0.04 (0.20)
RBEI II Item 9 (trees or shrubs on the ‘right of way)	0.04 (0.20)	0.00 (0.00)	2.00 (3.26)
RBEI II Item 10 (potholes in the street)	1.08 (1.59)	0.54 (0.88)	0.58 (1.25)
RBEI IIIB Item 10 (graffiti on property)	0.08 (0.28)	0.04 (0.20)	0.04 (0.20)
RBEI IIIB Item 11 (any broken windows or fixtures)	0.46 (0.51)	0.17 (0.38)	0.08 (0.28)
RBEI IIIB Item 12 (any cracked brick, concrete)	0.46 (0.51)	0.13 (0.34)	0.17 (0.38)
RBEI IIIB Item 13 (is lawn in poor condition)	0.50 (0.51)	0.42 (0.50)	0.58 (0.50)
RBEI IIIB Item 14 (window or doors have security)	0.63 (0.49)	0.67 (0.48)	1.00 (0.00)
RBEI IIIB Item 15 (any sign of a dog)	0.29 (0.46)	0.08 (0.28)	0.25 (0.44)
RBEI IIIB Item 16 (any security watch signs)	0.21 (0.41)	0.33 (0.48)	0.50 (0.51)
RBEI IIIB Item 17 (any flower or vegetable garden)	0.50 (0.51)	0.13 (0.34)	0.00 (0.00)
RBEI IIIB Item 18 (current/recent home improvements)	0.38 (0.49)	0.08 (0.28)	0.13 (0.34)

RBEI IIIB Item 19 (any place to sit outside)	0.33 (0.48)	0.21 (0.41)	0.54 (0.51)
NCSS Total	74.54 (8.95)	78.96 (9.51)	78.92 (10.91)
RBEI II Total	5.79 (4.77)	3.00 (3.23)	7.88 (4.97)
RBEI IIIB Total	3.83 (1.34)	2.25 (1.51)	3.29 (1.30)

Note. Total Blocks $N = 24$. NCSS = Neighborhood Conditions Safety Scale. RBEI

II = Revised Block Environmental Inventory Section II Block Physical

Environment. RBEI IIIB = Revised Block Environmental Inventory Section IIIB

Individual Property Physical Environment.

Table 2

Inter-rater Reliability Estimates Based on the NCSS and RBEI Assessments by Block

Block	NCSS	RBEI II	RBEI IIIB
49th & Greenwood (K)	.97	.64	.79
48th & Greenwood (K)	.96	.00	-.15
49th & Woodlawn (K)	.99	.00	.68
49th & Kimbark (K)	.97	.00	.14
48th & Ellis (K)	.98	.00	.56
48th & Kimbark (K)	.99	.74	-.38
47th & Dorchester (K)	.98	.56	.00
49th & Kenwood (K)	.90	.67	.68
54th & Laflin (NC)	.93	.97	.81
51st & Loomis (NC)	.95	.71	.77
54th & Ashland (NC)	.91	-.02	.61
51st & Bishop (NC)	.95	.19	.91
54th & Justine (NC)	.94	.75	.81
53rd & Bishop (NC)	.97	.97	.63
52nd & Bishop (NC)	.98	.94	.55
52nd & Loomis (NC)	.97	.69	.81
116th & Ada (WP)	.96	.14	.79
117th & Bishop (WP)	.97	-.56	.90
118 th (WP)	.97	.99	.70
117th & Halsted (WP)	.94	.00	.66
117th Lowe & Union(WP)	.95	.59	.57
118th & S. Pullman(WP)	1.00	.00	.20

117th & Lowe (WP)	.80	.63	.73
118th & Loomis (WP)	.97	.57	.94

Note. Total Raters $N = 3$. Inter-rater reliability estimates based on intra-class correlations, average measure and consistency agreement. Correlations above .80 indicate good inter-rater reliability. NCSS = Neighborhood Conditions Safety Scale. RBEI II = Revised Block Environmental Inventory Section II Block Physical Environment. RBEI IIIB = Revised Block Environmental Inventory Section IIIB 10-19 Individual Property Physical Environment. WP=West Pullman, NC= New City, and K= Kenwood.

Table 3

Total NCSS scores by Block and by Rater and Overall Mean

Block	Rater 1	Rater 2	Rater 3	M for Raters (rounded)
53rd & Bishop (NC)	59	70	66	65
118 th (WP)	60	75	79	71
54th & Laflin (NC)	64	65	62	64
54th & Ashland (NC)	65	69	60	65
52nd & Bishop (NC)	65	65	67	66
52nd & Loomis (NC)	65	74	71	70
51st & Bishop (NC)	67	68	69	68
117th & Lowe (WP)	67	64	72	68
54th & Justine (NC)	69	69	66	68
51st & Loomis (NC)	71	72	72	72
117th & Bishop (WP)	72	86	77	78
49th & Greenwood (K)	78	83	90	84
49th & Kenwood (K)	78	78	81	79
49th & Kimbark (K)	80	89	90	86
47th & Dorchester (K)	80	86	89	85
117th Lowe & Union (WP)	80	84	78	81
48th & Ellis (K)	81	87	88	85
49th & Woodlawn (K)	82	87	90	86
116th & Ada (WP)	82	91	91	88
117th & Halsted (WP)	82	75	72	76
48th & Kimbark (K)	83	88	88	86
48th & Greenwood (K)	84	90	90	88
118th & Loomis (WP)	84	90	92	89
118th & S. Pullman (WP)	91	90	94	92

Note. NCSS = Neighborhood Conditions Safety Scale. NCSS: High Scores = Highest Level of Comfort/Safety, many important neighborhood conditions are present; Low Scores = Poor Quality, important neighborhood conditions are absent.

Table 4

Total RBEI II Scores by Block and by Rater and Overall Mean

Block	RBEI II			
	Rater 1	Rater 2	Rater 3	M of Raters
49th & Greenwood (K)	8	0	3	3.67
48th & Greenwood (K)	0	0	8	2.67
49th & Woodlawn (K)	0	0	8	2.67
49th & Kimbark (K)	0	0	0	0
48th & Ellis (K)	0	0	7	2.33
48th & Kimbark (K)	11	1	9	7
47th & Dorchester (K)	6	0	2	2.67
49th & Kenwood (K)	4	0	2	2
54th & Laflin (NC)	12	9	9	10
51st & Loomis (NC)	12	3	7	7.33
54th & Ashland (NC)	8	5	9	7.33
51st & Bishop (NC)	2	3	6	3.67
54th & Justine (NC)	5	6	9	6.67
53rd & Bishop (NC)	11	9	13	11
52nd & Bishop (NC)	10	9	11	10
52nd & Loomis (NC)	14	5	7	8.67
116th & Ada (WP)	8	5	20	11
117th & Bishop (WP)	8	2	11	7
118 th (WP)	6	5	6	5.67
117th & Halsted (WP)	0	0	0	0
117th Lowe & Union(WP)	0	1	2	1
118th & S. Pullman(WP)	0	0	17	5.67
117th & Lowe (WP)	11	7	12	10
118th & Loomis (WP)	3	2	11	5.33

Note. RBEI II = Revised Block Environmental Inventory Section II Block

Physical Environment. RBEI IIIB = Revised Block Environmental Inventory

Section IIIB Individual Property Physical Environment. RBEI II: High Scores =
Higher Quantity present; Low Scores = Lower Quantity present.

Table 5

Total RBEI IIIB Scores by Block and by Rater

Block	RBEI IIIB			Rater M
	Rater 1	Rater 2	Rater 3	
49th & Greenwood (K)	3	3	4	3.33
48th & Greenwood (K)	4	0	3	2.33
49th & Woodlawn (K)	3	1	2	2
49th & Kimbark (K)	4	0	2	2
48th & Ellis (K)	3	1	3	2.33
48th & Kimbark (K)	3	0	1	1.33
47th & Dorchester (K)	0	0	1	.33
49th & Kenwood (K)	3	1	2	2
54th & Laflin (NC)	4	4	3	3.67
51st & Loomis (NC)	6	3	4	4.33
54th & Ashland (NC)	5	2	4	3.67
51st & Bishop (NC)	5	3	3	3.67
54th & Justine (NC)	4	2	4	3.33
53rd & Bishop (NC)	3	3	3	3
52nd & Bishop (NC)	4	4	3	3.67
52nd & Loomis (NC)	4	3	4	3.67
116th & Ada (WP)	3	3	4	3.33
117th & Bishop (WP)	4	2	4	3.33
118 th (WP)	7	6	6	6.33
117th & Halsted (WP)	4	2	3	3
117th Lowe & Union (WP)	5	2	3	3.33
118th & S. Pullman (WP)	3	3	6	4
117th & Lowe (WP)	5	4	5	4.67
118th & Loomis (WP)	3	2	2	2.33

Note. RBEI IIIB = Revised Block Environmental Inventory Section IIIB

Individual Property Physical Environment items 10-19. RBEI IIIB: High Scores = more items present; Low Scores = less items present

Figures

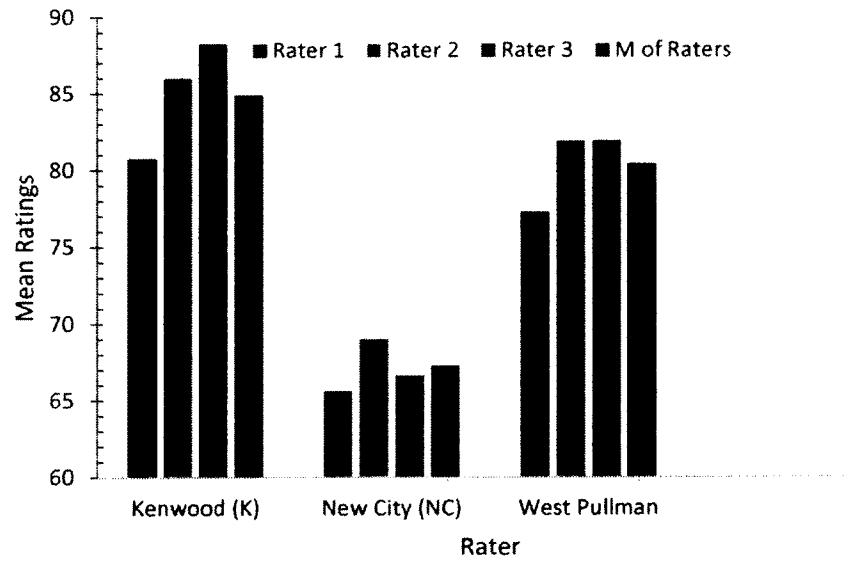


Figure 1. Total NCSS scores by neighborhood, rater and overall mean. Higher scores equal better quality ratings of the neighborhood. 'M of raters' equals overall mean scores for the neighborhood.

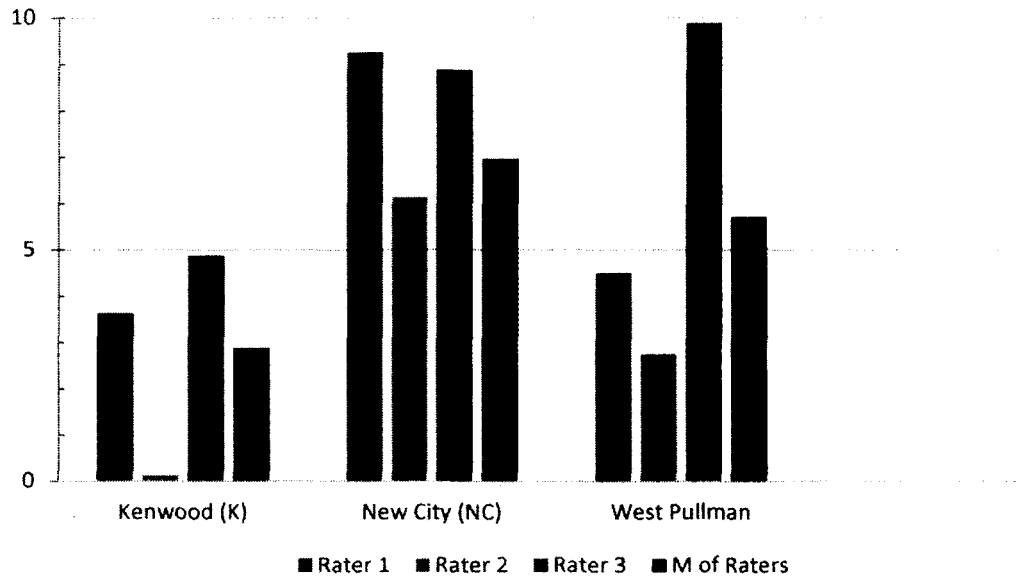


Figure 2. Total RBEI II scores by neighborhood, rater and overall mean. Higher scores equal lower quality ratings of the neighborhood. ‘M of raters’ equals overall mean scores for the neighborhood.