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DOCUMENTATION FOR THE BOSTON NEIGHBORHOOD SURVEY

Overview

This document summarizes data from the Boston Neighborhood Survey (BNS), conducted by the Injury Control Research Center (ICRC) at the Harvard T.H. Chan School of Public Health (HSPH). The BNS was a telephone survey administered to Boston residents over three waves, in 2006, 2008, and 2010. The survey covered topics ranging from public safety to collective efficacy to social networks.

The BNS database, available through the Boston Data Library's repository, includes: individual-level survey responses for each wave (*BNS_Individual_[Year].csv*); survey scale measures (e.g., social cohesion) aggregated to the tract level for each of the 3 waves (2000 census geographies; *BNS_Longitudinal_by_Tract.csv*); survey scale measures (e.g., social cohesion) aggregated to two neighborhood cluster levels, with boundaries determined by the ICRC, for each of the 3 waves (*BNS_Longitudinal_by_NBHDS38.csv* and *BNS_Longitudinal_by_NBHDS89.csv*); survey scale measures aggregated to the census block group level for the combined 2008 and 2010 waves (2000 census geographies; *BNS_2008-10_Combined_by_Block_Group.csv*); survey scale measures from 2006, 2008, and 2010 for census tracts translated to 2010 census geographies using the Longitudinal Tract Data Base[1] (*BNS_Longitudinal_Translated_to_2010_Tract.csv*). This document details the content of each of these data sets, including a list of all survey items in each wave as well as survey scales and their statistical properties.

[1] Logan, John R., Zengwang Xu, and Brian Stults. 2014. "Interpolating U.S. Decennial Census Tract Data from as Early as 1970 to 2010: A Longitudinal Tract Database." *The Professional Geographer* 66(3):412-20.

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1. Boston Neighborhood Survey Responses

1.1. Description of Contents

The BNS was a biennial, random-digit-dial telephone survey conducted in 2006, 2008, and 2010, with approximately 1,700 adults in each wave, based on the methodology from Raudenbush and Sampson (1999). Random selection of adult residents (>18 years) throughout the city of Boston was based on a list-assisted sampling frame, with separate random probability samples for each of Boston's 16 neighborhoods, proportional to population size. The data sets for each wave can be found in the Boston Data Library's Repository under the name *BNS_Individual_[Wave].csv*.

The study was constructed to generate a sample that was representative across Boston neighborhoods, but not necessarily to have a representative demographic sample from each of these neighborhoods. BARI computed weights for the survey response data, but they did not make a substantial difference for measurement properties, for this reason we have not included them here. For more information on the weighting procedure and measurement results, see Appendix A.

1.2. Description of Variables

The survey items are organized into 7 main categories: 1) Survey Administration; 2) Geographic Information; 3) Demographic Characteristics; 4) Housing Characteristics; 5) Education Characteristics; 6) Sources of Local Information; 7) Items within Survey Scales.

The measurement instrument used for each item is noted in the text below the respective item or, in the case of instruments used for many items, in brackets by a shorthand name (e.g., Yes/No). All such instruments are described in greater detail in Section 1.3.

1.2.1. Survey Information

- *respnum_* indicates the respondent number in the survey wave
- *survlang* indicates the language in which the survey was administered
    - *Note:* Measured as 0 = English, 1 = Other
- *intdate* indicates the date on which the survey was administered
    - *Note:* Available for 2008 and 2010 only
- *pop* indicates the survey wave
    - *Note:* Available for 2008 and 2010 only

1.2.2. Geographic Information

- *BG_ID* indicates the 2000 census block group ID of residence
    - *Note:* Available for 2008 and 2010 only
- *CT_ID* indicates the 2000 census tract group ID of residence
- *Nbhd* indicates the neighborhood number of respondent's residence (range 1 - 16). See Appendix B for table of corresponding neighborhood names.
- *neighborhood* indicates the neighborhood number of respondent's residence (range 1 - 15), different from *Nbhd*. See Appendix B for table of corresponding neighborhood names.
    - *Note:* Available for 2006 only
- *NBHDS38* indicates the neighborhood cluster number of respondent's residence (*N* = 38). See Appendix C for table of corresponding neighborhood cluster names.
- *NBHDS89* indicates the neighborhood number of respondent's residence (*N* = 89). See Appendix C for table of corresponding neighborhood cluster names.
- *q3* or *q3s* indicates the zip code of residence
    - *Note:* Available for 2008 and 2010 only

1.2.3. Age, Sex, Racial, and Economic Characteristics

- *AgeRaw* indicates the age of the respondent
- *RAGE indicates* the age range of the respondent
    - *Note:* Measured as 1 = 18-29; 2 = 30-39; 3 = 40-49; 4 = 50-64; 5 = >65
- *RGENDR indicates* the gender of the respondent
    - *Note:* Categories of gender include only Female [= 0] and Male [= 1]
- *RRACE indicates* the race/ethnicity of the respondent
    - *Note:* Measured as 1 = Black; 2 = White; 3 = Asian; 4 = Other; 5 = NA
- *RHISP indicates* whether the respondent is Hispanic or Latino [Yes/No]
- *RHHINC indicates* the total household income of the respondent in the prior year
    - *Note:* Measured as 1 = <$20,000; 2 = $20-40,000; 3 = $40-80,000; 4 = $80-100,000; 5 = $100,000
- *REDUC indicates* the highest level of education completed by the respondent
    - *Note:* Measured as 1 = Some high school or less; 2 = High school graduate; 3 = Some college or Associates degree; 4 = Bachelors degree; 5 = Graduate study
- *EngHomeBin indicates* whether English is the main language in the home [Yes/No]
- *ESLBin indicates* whether there is a language other than English in the home [Yes/No]
- *ChildBin indicates* whether the respondent has children aged 5-18 [Yes/No]
- *Under5Bin indicates* whether the respondent has children under age 5 [Yes/No]
- *USABin indicates* whether the respondent was born in the USA [Yes/No]
- *ParentsUSABin indicates* the respondent's parents were both born in the USA [Yes/No]
- *YearUSA indicates* the number of years the respondent has lived in the USA [Years]

1.2.4. Housing Characteristics

- *LivePartner indicates* whether the respondent's partner lives in the home [Yes/No]
- *LiveAdults indicates* the number of other adults in the home
    - *Note:* Measured as an integer; 0 = None

- *Tenure indicates* the number of years the respondent has lived in the USA [Years]
- *YrsRes indicates* the number of years the respondent has lived in the USA [Years]
- *BHAVoucher* indicates whether the respondent rents his/her residence with a Boston Housing Authority (BHA) voucher [Yes/No]
- *BHAHousing indicates* whether the respondent lives in a BHA building [Yes/No]
    - *Note:* Available for 2010 only
- *city22r* indicates whether the respondent rents his/her residence with a BHA voucher
    - *Note:* Measured as 1 = Live in BHA building; 2 = Rents with a BHA voucher; 3 = Neither, 4 = NA
    - *Note:* Available for 2010 only
- *CO indicates* whether there is a carbon monoxide monitor or detector in the respondent's residence [Yes/No]
    - *Note:* Available for 2006 only

1.2.5. Education Characteristics

- *AfterSchBin indicates* whether the respondent has a child who attended an after-school program in the previous school year [Yes/No]
- *BPSBin indicates* whether the respondent has a child who attended a Boston Public School in the previous school year [Yes/No]
- *BPSHSBin indicates* whether the respondent has a child who attended a Boston Public School High School in the previous school year [Yes/No]
    - *Note:* Available for 2008 only
- *ChartBin indicates* whether the respondent has a child who attended a Charter school in the previous school year [Yes/No]
    - *Note:* Available for 2006 only
- *MetcoBin indicates* whether the respondent has a child who attended a METCO public school in the previous school year [Yes/No]
    - *Note:* Available for 2006 only

- *PrivateBin indicates* whether the respondent has a child who attended a private school in the previous school year [Yes/No]
    - *Note:* Available for 2006 only

1.2.6. Sources of Information

The 2006 survey wave alone included questions concerning the sources from which residents obtain neighborhood-related information.

- *InfoBest indicates* what the respondent said was the best source of information about city services
    - *Note:* Measured as 1 = Television; 2 = Radio; 3 = Newspaper; 4 = Friends; 5 = Internet, 7 = NA
- *InfoFrndBin indicates* whether the respondent received information on city services from friends or relatives in the past year [Yes/No]
- *InfoNetBin indicates* whether the respondent received information on city services from the internet in the past year [Yes/No]
- *InfoPaperBin indicates* whether the respondent received information on city services from the newspaper in the past year [Yes/No]
- *InfoRadBin indicates* whether the respondent received information on city services from the radio in the past year [Yes/No]
- *InfoTVBin indicates* whether the respondent received information on city services from television in the past year [Yes/No]
- *NetAccess indicates* whether the respondent has internet access [Yes/No]
- *NetFreq indicates* how often the respondent uses the internet
    - *Note:* Measured as 1 = Less then every week; 2 = Every week; 3 = Every day

1.2.7. Survey Scales

The BNS included 15 multi-item survey scales that describe neighborhood social dynamics. The database contains a measure for each of these scales for each survey respondent; BARI has also aggregated them to the neighborhood level (see Section 2). Each scale as presented in this section was constructed in a two-step process. First, all items intended for a particular scale were

considered. Second, their inter-correlations were examined (via Cronbach's alpha), and items with weak statistical relationship to the others (i.e., lowered the reliability) were removed. The scales vary in availability by wave and any item that is available for only a subset of waves has an accompanying note. The measurement instrument used for each item or set of items is noted in brackets by a code (e.g., Likert-Likely) that is described in greater detail in Section 1.3. Scales measured as the mean of items are calculated as the mean of non-missing responses.

- *Abuse*, or the perceived likelihood that domestic abuse would be reported in this neighborhood. Mean of items: [Likert-Likely]
  - *Ab1:* If a child or teenager was being neglected by his or her family, how likely is it that your neighborhood would know about it?
  - *Ab2:* If a child or teenager was being neglected by his or her family, how likely is it that your neighborhood would report it to the authorities?
  - *Ab3:* If a child or teenager was being treated abusively by his or her family, how likely is it that your neighborhood would know about it?
  - *Ab4:* If a child or teenager was being treated abusively by his or her family, how likely is it that your neighborhood would report it to the authorities?

- *CtEng* (City Engagement), or how often a citizen interacted with Boston's city government. Sum of items:
    - *Note:* Available for 2006 only.
  - *CtEng2:* In the past year, how many times have you visited the City of Boston website?
    - *Note:* 1 = Once; 2 = More than Once; 0 = if *CtEng1* = 0
  - *CtEng4*: In the past year, how many times have you called the Mayor's 24 hour hotline or any other City of Boston department?
    - *Note:* 1 = Once; 2 = More than Once; 0 = if *CtEng3* = 0
  - *CtEng5:* In the past year, have you gone to city hall in order to access any city services? [Yes/No]

  <u>Not included (because of a lack of correlation with other items):</u>

  - *CtEng1*: In the past year, have you visited the City of Boston website? [Yes/No]
  - *CtEng3:* In the past year, have you called the Mayor's 24 hour hotline or any other City of Boston department? [Yes/No]

- *gangact* (Gang Activity), or the perceived level of gang activity in the respondent's neighborhood. Mean of items:
    - *Note:* Available for 2008 and 2010 only.
    - *GA2:* In your neighborhood, how serious or dangerous do you think gang activities are?
        - *Note:* Measured as 1 = Not serious; 2 = Somewhat serious; 3 = Very serious; 0 = if *GA1* = 0
    - *GA3:* How much do neighborhood gangs get in the way of you being able to do everyday things, like going to the store or going out at night? [Likert- Degree1]
        - *Note:* Available for 2008 and 2010 only.
        - *Note*: 0 if *GA1* = 0

    Not included (because of a lack of correlation with other items):

    - *GA1:* As far as you know, are there any gangs operating in your neighborhood? [Yes/No]
    - *GA4*: Compared to 1 year ago, do you think gangs now are…?
        - *Note:* Available for 2010 only.
        - 1 = More of a problem; 2 = About the same; 3 = Less of a problem

- *IntgenClos* (Intergenerational Closure), or the extent to which unrelated adults and children in the neighborhood have positive relationships. Mean of items: [Likert- Agree]
    - *IC1:* There are adults in my neighborhood that children can look up to
    - *IC2:* You can count on adults in my neighborhood to watch out that children and teenagers are safe and stay out of trouble
    - *IC3:* Parents in my neighborhood know one another
    - *IC4:* Parents in my neighborhood know their children's friends
    - *IC5:* Adults in my neighborhood know who the local children are
        - *Note:* Available for only 2008 and 2010.

- *NbhdInv* (Neighborhood Involvement), or the respondent's participation and awareness with respect to neighborhood activities. Sum of items:

- *NI1:* In the past year, have you attended any meeting in your neighborhood, such as a community meeting, crime watch meeting, or block meeting? [Yes/No]
- *NI2:* In the past year, have you attended any social activity in your neighborhood, such as a block party or festival? [Yes/No]
    - *Note:* Available for 2006 and 2008 only.
- *NI3:*In the past year, have you visited any community resources such as a community center, police department, or a library? [Yes/No]
- *NI4:* How well informed would you say you are about activities and organizations in your neighborhood?
    - *Note:* Measured as 1 = Not Informed; 2 = Somewhat Informed; 3 = Very Informed

- *PhysDis* (Physical Disorder), or the perceived degree of physical disorder issues. Mean of items: [Likert-Degree2 in 2006, Likert-Size in other waves]
    - *Note:* Higher scores indicate more physical disorder for all waves. Since the 2006 survey items are measured in the opposite direction from those in 2008 and 2010, response values were flipped in the calculation of *PhysDis* for 2006.

  How much of a problem is…?
  - *PD1:* Litter, broken glass, or trash on sidewalks
  - *PD2:* Graffiti on buildings and walls
  - *PD3:* Vacant lots or deserted houses or storefronts
  - *PD4:* Gunshots and shootings
      - *Note:* Available for 2008 and 2010 only.

- *Police*, or the perceived success of police activities in the respondent's neighborhood. Sum of items:
  - *P1:* Overall, the police are doing a good job? [Likert-Agree]
      - Available for 2006 only.
  - *P2:* The police are doing a good job in dealing with problems that really concern people in your neighborhood. [Likert-Agree]
  - *P3:* In the last five years, has the level of police protection…? [Likert-Change]

- *P4:* In the last five years, has personal safety...? [Likert-Change]
- *P5:* During the past 12 months, have you gotten to know any police officer who patrols your neighborhood on foot? [Yes/No]
    - Available for 2008 and 2010 only.
- *P7:* During the past 12 months, have the police treated you with respect? [Likert-Timing2]
    - Available for 2008 and 2010 only

Not included (because of a lack of correlation with other items):

- *P6:* During the past 12 months, have you had any contact with the police? [Yes/No]
    - Available for 2008 and 2010 only.
- *P8:* As far as you know, are there any police officers patrolling your neighborhood on foot? [Yes/No]
    - Available for 2010 only.

- *RecipExch* (Reciprocal Exchange), or the perceived degree to which neighbors interact with one another in the respondent's neighborhood. Mean of items: [Likert- Timing]
    - Available for only 2008 and 2010.

  In your neighborhood, about how often do people…?
  - *RE1:* Do favors for each other…
  - *RE2:* Have parties or other get-togethers where neighbors are invited…
  - *RE3:* Visit with each other in homes or on street
  - *RE4:* Ask each other advice about personal things such as childrearing or job openings
  - *RE5:* Watch over neighbor's property when they are not home

- *ReportingCrime,* or the perceived likelihood that neighbors will report grievances and crimes to the police. Mean of items: [Likert-Likely]
    - Available for 2010 only.
  - *RC1:* How likely are your neighbors to report loud music at night to the police?
  - *RC2:* How likely are your neighbors to report a loud domestic dispute to the police?

- *RC3:* How likely are your neighbors to report seeing someone getting robbed to the police?
- *RC4:* How likely are your neighbors to report that you saw someone getting shot to the police?

- *soccoh,* (Social Cohesion), or the strength of positive social relationships between people in the neighborhood. Mean of items: [Likert- Agree]
  - *CE1:* People in my neighborhood can be trusted.
  - *CE2:* People in my neighborhood are willing to help their neighbors.
  - *CE3:* People in my neighborhood know and like each other.
  - *CE4:* People in my neighborhood get along with each other.
  - *CE5:* People in my neighborhood share the same values about what is right and wrong.

- *soccon* (Social Control), or the perceived ability of the neighborhood can enforce shared norms. Mean of items: [Likert- Likely]

  How likely is it that your neighborhoods would organize together to do something about…?
  - *CE6:* Suppose that because of budget cuts, the city was going to close the local fire station. Organize together to keep it open?
  - *CE7:* If a group of neighborhood children were skipping school and hanging out on a street corner
  - *CE8:* If a child was showing disrespect to an adult
  - *CE9:* If a child was spray-painting graffiti on a local building
  - *CE10:* If there was a fight in your neighborhood and someone was being beaten or threatened

- *SocDis* (Social Disorder), or the perceived degree of social disorder issues. Mean of items: [Likert-Size]
    - *Note:* Higher scores indicate more social disorder. Available for 2008 and 2010.

  How much of a problem is…?

- *SD1:* People drinking alcohol in public, like outside on the street corner
- *SD2:* People using or being addicted to drugs
- *SD3:* People selling drugs
- *SD4:* Poverty -- such as families not having enough money for basic needs
- *SD5:* Groups of people hanging around neighborhood and causing trouble

- *SocNet* (Social Network), or the size of the respondent's social network. Sum of items:
  - *Note:* The following items are measured as: 1 = None; 2 = 1 or 2; 3 = 3 to 5; 4 = 6 to 9; 5 = >10
  - *SN1:* Not counting people who live with you, how many friends live in your neighborhood?
  - *SN2:* Not counting people who live with you, how many relatives live in your neighborhood?

- *SuiAtt* (Suicide Attitudes), or the perceived efficacy of suicide prevention options. Mean of either *SA1* and *SA2* OR *SA3* and *SA4*: [Likert-Number]
  - *Note:* Available for 2006 only.

  More than 15,000 Americans commit suicide with a gun each year…
  - *SA1:* How many of the adults do you think would have found another way to kill themselves if they did not have a gun in their home?
  - *SA2:* How many of the teenagers do you think would have found another way to kill themselves if they did not have a gun in their home?

  More than 1,000 people have committed suicide by jumping from the Golden Gate Bridge…
  - *SA3:* How many of the adults do you think would have found another way to kill themselves if a suicide barrier that prevented jumping had been present?
  - *SA4:* How many of the teenagers do you think would have found another way to kill themselves if a suicide barrier that prevented jumping had been present?

- *Unsafe*, or the respondent's fear of crime in their neighborhood. Because items varied across years, the sum was used in 2006, while the mean was used in 2008 and 2010. For all

items, the measurement scheme in brackets refers to the measure included in the survey scale (i.e. *SF1R, SF2, SF3R,* etc.), even if it is the reverse coding of another item.

- *SF1R:* Reverse-coded version of *SF1,* Overall, do you consider your neighborhood …? [Likert-Safe]
- *SF2:* If you felt your neighborhood was safer, would you go outside…? [Likert-More]
- *SF3R:* Reverse-coded version of *SF3,* How comfortable do you feel walking alone in the city? [Likert-Comfortable]
    - *Note:* Available for 2006 only.
- *SF5:* In the past 3 months, have you heard gunshots in the neighborhood? [Yes/No]
    - *Note:* Available for 2006 only.
- *SF6:* In the past 12 months, has anyone shown you they had a gun in order to scare you or get you to do something? [Yes/No]
    - *Note:* Available for 2006 only.
- *SF11R:* Reverse-coded version of *SF11,* How comfortable do you feel walking alone in you neighborhood during the day? [Likert-Comfortable]
    - *Note:* Available for 2008 and 2010 only.
- *SF12R:* Reverse-coded version of *SF12,* How comfortable do you feel walking alone in you neighborhood during at night? [Likert-Comfortable]
    - *Note:* Available for 2008 and 2010 only.
- *SF13R:* Reverse-coded version of *SF13,* Do you feel that the park or playground closest to where you live is safe during the day? [Yes/NoR]
    - *Note:* Available for 2008 and 2010 only.
- *SF14R:* Reverse-coded version of *SF14,* Do you feel that the park or play closest to where you live is safe after dark?
    - *Note:* Available for 2010 only.
    - Measured as No = 4; Yes = 3, due to recoding

<u>Not included (because of a lack of correlation with other items):</u>

- *SF4:* Compared to 1 year ago, do you think there are … in your neighborhood now?
    - *Note:* 1 = More guns; 2 = Less guns; 3 = About the same number of guns; 4 = NA
- *SF7:* Does anyone in your household own a handgun? [Yes/No]

- *SF15:* Do you consider some streets in your neighborhood safer than others? [Yes/No]
    - *Note:* Available for 2010 only.
    - Recoded as *SF15R* with 0 = 4; 1 = 3

1.2.8. Additional Items

The following items are topically related as noted by each category name, though they are not combined into formal survey scales.

Neighborhood Satisfaction Items

- *NS1:* Overall, as a place to live, how much do you like this neighborhood? [Likert-Agree]
    - *Note:* Available for 2008 only.
- *NS2:* If you had to move away, would you miss this neighborhood…?
    - *Note:* Available for 2008 only.
    - *Note:* Measured as 1 = Not at all; 2 = Only a little; 3 = Somewhat; 4= A lot
- *new22:* People in my neighborhood have opportunities to meet and work on solving community problems? [Likert-Agree]
    - *Note:* Available for 2008 and 2010 only.

StreetSafe Program Items (asked in StreetSafe neighborhoods only)

- *SS1:* How much do you think street workers help reduce violence in your neighborhood?
    - *Note:* Available for 2010 only
    - 1 = Not much at all; 2 = A little; 3 = A lot
- *SS4:* Do you think street workers are in your neighborhood…?
    - *Note:* Available for 2010 only
    - 1 = Rarely; 2 = Some days; 3 = Most days
- *SS6:* As far as you know, are there any gang outreach street workers working in your neighborhood? [Yes/No]

- *Note:* Available for 2010 only

- *SS7:* Before today, had you heard of this StreetSafe program? [Yes/No]
  - *Note:* Available for 2010 only

Injury-Related Items

- *IJ1:* In the past 3 months, did you have an accidental injury such as a cut, bruise, burn, sprain, or fracture that was serious enough to cause you to go to the hospital? [Yes/No]
  - *Note:* Available for 2006 only.
- *IJ2:* For the most severe accidental injury you got in the past 3 months, did you go to a doctor or hospital? [Yes/No]
  - *Note:* Available for 2006 only.
- *IJ3:* Did you cause this injury yourself (such as closing a door on your own hand) or did someone else cause the injury (such as someone shut a door on your hand)?
  - *Note:* Available for 2006 only.
  - *Note:* Measured as 1 = Self; 2 = Someone else
- *IJ4:* Was this person (in IJ3) a…?
  - *Note:* Available for 2006 only.
  - *Note:* Measured as 1 = Family Member; 2 = Acquaintance; 3 = Friend; 4 = Stranger
- *IJ5:* In the past 12 months, did you accidentally injure another person? [Yes/No]
  - *Note:* Available for 2006 only.
- *IJ6:* For this injury (from *IJ5*), did the person go to a doctor or hospital? [Yes/No]
  - *Note:* Available for 2006 only.
- *IJ7:* Was this person (from *IJ5*) a…?
  - *Note:* Available for 2006 only
  - *Note:* Measured as 1 = Family Member; 2 = Acquaintance; 3 = Friend; 4 = Stranger
- *IJ8:* In the past 12 months, did you have an accidental injury such as a cut, bruise, burn, sprain, or fracture that was serious enough to cause you to go to the hospital? [Yes/No]

- *Note:* Available for 2006 only.

- *IJ9:* Thinking about the most serious accidental injury that you had in the past 12 months, did you cause this injury yourself (such as closing a door on your own hand) or did someone else cause the injury (such as someone shutting a door on your hand)?
  - *Note:* Available for 2008 only.
  - *Note:* Measured as 1 = Self; 2 = Someone else
- *IJ10:* Thinking about the most serious accidental injury that you had in the past 12 months, when were you injured, were you…?
  - *Note:* Available for 2008 only.
  - *Note:* Measured as 1 = Playing sports; 2 = Riding in or driving a car; 3 = Inside your or someone else's home; 4 = Doing something else
- *IJ11:* In the past 12 months, did you do something by accident that resulted in someone else getting physically hurt or injured? [Yes/No]
  - *Note:* Available for 2008 only.
- *IJ12:* Think about a time when someone was physically hurt or injured because of something you did accidentally. Think only about the past 12 months. When the person was hurt or injured, was he or she…?
  - *Note:* Available for 2008 only.
  - *Note:* Measured as 1 = Playing sports; 2 = Riding in or driving a car; 3 = Inside your or someone else's home; 4 = Doing something else
- *qn12r:* Think back a year, how much of a problem were gunshots and shootings? [Likert-Size]
  - *Note:* Available for 2010 only.

Observed and Experienced Violence-Related Items

<u>The following are available for 2008 only. Measured as [Yes/No] unless otherwise stated:</u>

- *New60:* While living in this neighborhood, has anyone used violence, such as in a mugging, fight, or sexual assault against you or any member of your household?
- *New61:* (If Yes to *New60*) Was that in the past 6 months?
- *SF8:* If *New60* = 0, then *SF8* = 1. If *New60* = 1, then *SF8* = 5- *New61*.

- *New62:* While living in this neighborhood, has anyone used violence, has your home been broken into?
- *New61:* (If Yes to *New62*) Was that in the past 6 months?
- *SF9:* If *New62* = 0, then *SF9* = 1. If *New62* = 1, then *SF9* = 5- *New63*.
- *New64:* While living in this neighborhood, has anything been stolen from your property outside, such as your yard, porch, or garage?
- *New65:* (If Yes to *New64*) Was that in the past 6 months?
- *SF10:* If *New64* = 0, then *SF10* = 1. If *New64* = 1, then *SF10* = 5- *New51.*

1.3. Measurement Scales Key

Below are the measurement scales for the Boston Neighborhood Survey items. The coding of certain items was reversed or otherwise altered during data processing to make the responses more interpretable. For those items, the coding noted in this documentation is the same as that in the actual data set, but differ from the original questionnaire. NA encompasses both "don't know" and missing responses.

- Likert-Agree: 1 = Strongly Disagree; 2 = Disagree; 3 = NA; 4 = Agree; 5 = Strongly Agree
- Likert-Change: 1 = Worse; 2 = Same; 3 = Better
- Likert-Comfortable: 1 = Very Comfortable; 2 = Somewhat; 3 = Not Comfortable
- Likert-Degree1: 1 = Not at all; 2 = Only a little; 3 = Somewhat; 4 = A lot
- Likert-Degree2: 1 = A lot; 2 = Some; 3 = None
- Likert-Likely: 1 = Very Unlikely; 2 = Unlikely; 3 = NA; 4 = Likely; 5 = Very Likely
- Likert-More: 1 = No More; 2 = A Little More; 3 = A Lot More
- Likert-Number: 1 = Few; 2 = Some; 3 = Most; 4 = All
- Likert-Often: 1= Once; 2 = More
- Likert-Safe: 1 = Very Safe; 2 = Somewhat Safe; 3 = Not Safe

- Likert-Size: 1 = Not; 2 = Small; 3 = Big
- Likert-Timing: 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Often
- Likert-Timing2: 1 = Rarely; 2 = Sometimes; 3 = Always
- Years: Measured as an integer; 0 = <1 year
- Yes/No: 0 = No; 1 = Yes
- Yes/NoR: 0 = Yes; 1 = No

2. Summary of Boston Neighborhood Survey Database

2.1. Description of Contents

For each of the 15 individual-level survey scales (see Section 1.2.7), BARI calculated a corresponding neighborhood-level measure. We calculated each by fitting a hierarchical linear model predicting measures on the given scale with individuals nested within their geography (i.e., census geography, neighborhood cluster). The individual-level model controlled for demographic characteristics—gender, age, ethnicity, and parental status—that might influence responses, and the neighborhood-level model included only the intercept. We then extracted Bayes residuals for the neighborhood-level intercept, which reflect the extent to which a given neighborhood differed from the average neighborhood. These residuals then act as neighborhood-level measures for a scale that has been adjusted for measurement error. We calculated a 16th scale, *collective efficacy*, as the average of the neighborhood's *social cohesion* and *social control*.

We calculated neighborhood-level metrics for all waves for two sets of neighborhood clusters determined by HSPH (*N* = 38; all available in *BNS_Longitudinal_by_NBHDS38.csv* and *N* = 89; all available in *BNS_Longitudinal_by_NBHDS89.csv*); 2000 census tracts (*N* = 156; all available in *BNS_Longitudinal_by_Tract.csv*); for 2000 census block groups, the scales were calculated only for the combined 2008 and 2010 waves due to low sample size per block group (*N* = 525; available in *BNS_2008-10_Combined_by_Block_Group.csv*). The 2006, 2008, and 2010 survey scales at the tract level were translated from 2000 census tracts to 2010 census tracts using the Longitudinal Tract Data Base (*N* = 177; available in *BNS_Longitudinal_Translated_to_2010_Tract.csv*). For more information, see Logan, John R., Zengwang Xu, and Brian Stults. 2014[2].

[2] Logan, John R., Zengwang Xu, and Brian Stults. 2014. "Interpolating U.S. Decennial Census Tract Data from as Early as 1970 to 2010: A Longitudinal Tract Database." *The Professional Geographer* 66(3):412-20.

2.2. Description of Variables

Below is the list of all of the variables available at the neighborhood level (see Section 1.2.7. for constituent items). The availability of the scales by wave can be found in Appendix D (Section 3.4).

- *Abuse*, or the perceived likelihood that domestic abuse would be reported in this neighborhood
- *CtEng* (City Engagement), or how often citizens in the neighborhood interacted with Boston's city government
- *gangact* (Gang Activity), or the perceived level of gang activity in the neighborhood
- *IntgenClos* (Intergenerational Closure), or the extent to which unrelated adults and children in the neighborhood have positive relationships
- *NbhdInv* (Neighborhood Involvement), or the participation and awareness with respect to neighborhood activities
- *PhysDis* (Physical Disorder), or the perceived degree of physical disorder issues
- *Police, or* the perceived success of police activities in the neighborhood
- *RecipExch* (Reciprocal Exchange), or the perceived degree to which neighbors interact with one another in the neighborhood
- *ReportingCrime*, or the perceived likelihood that neighbors will report grievances and crimes to the police
- *soccoh* (Social Cohesion), or the strength of positive social relationships between people in the neighborhood
- *soccon* (Social Control), or the perceived ability of the neighborhood to enforce shared norms
- *CollEff* (Collective Efficacy), or a neighborhood's capacity to accomplish shared goals, is the mean of the neighborhood's measured social cohesion (*soccon*) and social control (*soccon*).
- *SocDis* (Social Disorder), or the perceived degree of social disorder issues
- *SocNet* (Social Network), or the size of the social networks of neighborhood residents
- *SuiAtt* (Suicide Attitudes), or the perceived efficacy of suicide prevention options
- *Unsafe,* or the fear of crime in the neighborhood

3. Appendices

3.1. Appendix A: Discussion of Weighting Process for Survey Response Data

Since the Boston Neighborhood Survey was not specifically constructed to have a representative demographic sample from each Boston neighborhood, there is a lack of demographic representative of the population by Neighborhood Statistical Area (NSA). To account for this representation, BARI conducted analyses that utilized weights for BNS survey responses. The weights were calculated by raking, an iterative procedure using known population marginal or partial joint distributions to better match the survey sample to the population (Deville, Särndal, and Sautory 1993). Cases were weighted using the joint distributions of NSA by homeownership and NSA by gender as well as the marginal distribution of race for the city of Boston. The weights were then trimmed to fit within their original 5th and 95th percentile values. The resulting weighted distributions of homeownership, gender, and race were compared to the 2005-2009 American Community Survey for the 2008 BNS and the 2010 Census for the 2010 BNS, which showed smaller differences by NSA than the unweighted distributions. However, these weights did not make a substantial difference for measurement and were, therefore, not used to construct the survey scales.

Deville, Jean-Claude, Carl-Erik Särndal, and Olivier Sautory. 1993. "Generalized Raking Procedures in Survey Sampling." *Journal of the American Statistical Association* 88(423):1013–20.

3.2. Appendix B: Neighborhood Name Table for "Nbhd" and "Neighborhood" Variables

Table 1: Neighborhood Names Corresponding to "Nbhd" Number

1	Allston/Brighton
2	Back Bay/Beacon Hill/ West End
3	Charlestown
4	East Boston
5	Fenway
6	Hyde Park
7	Jamaica Plain
8	Mattapan
9	North Dorchester
10	North End
11	Roslindale
12	Roxbury
13	South Boston
14	South Dorchester
15	South End/Chinatown
16	West Roxbury

Table 2: Neighborhood Names Corresponding to "neighborhood" Number (2006 only)

1	Allston/Brighton
2	Back Bay/Beacon Hill/ West End
3	Charlestown
4	North Dorchester/South Dorchester (Dorchester)
5	East Boston
6	Fenway
7	Hyde Park
8	Jamaica Plain
9	Mattapan
10	North End
11	Roslindale
12	Roxbury
13	South Boston
14	South End/Chinatown
15	West Roxbury

3.3. Appendix C: Neighborhood Cluster Names for "NBHDS38" and "NBHDS89" Variables

Table 1: Neighborhood Names Corresponding to "NBHDS38"

NBHDS38	NBHDS38_Name
1	Allston/Brighton
2	KE/LONG/BERK/BB/BH
3	West End/North End/Govt Ctr
4	Charlestown/Navy Yard
5	East Boston
6	Dorchester Heights/Waterfront
7	South Boston
8	Chinatown
9	South End/Lower Roxbury
10	South Bay/Newmarket Square
11	Orchard Park
12	Madison Park/Dudley
13	Mission Hill
14	Bromley/Heath
15	Egleston
16	Fort Hill/Washington Park
17	Blue Hill Ave
18	Grove Hall
19	South Dorchester/Four Corners
20	Columbia Point/Savin Hill
21	Uphams Corner
22	Jones Hill
23	Fields Corner
24	Bowdoin/Geneva
25	Codman/Ashmont
26	Franklin Field/Norfolk
27	Popes Hill/Neponset
28	Lower Mills/Adams
30	East Mattapan
29	West Mattapan
31	North Mattapan
32	Amer Legion/Mt Hope/Forest Hills
33	Roslindale Village
34	Jamaica Plain
35	West Roxbury
36	Hyde Park S/W
37	Hyde Park N/E
38	Hyde Park Other

Table 2: Neighborhood Names Corresponding to "NBHDS89"

NBHDS89	NBHDS89_Name
1	North Allston
2	Oak Square
3	Brighton Center
4	Allston Village
5	Commonwealth
6	Corey Hill
7	Cleveland Circle (/Brighton)
8	Kenmore/BU
9	Fenway/West Fens
10	Longwood
11	Symphony/Berklee
12	Northeastern
13	Back Bay
14	Beacon Hill
15	West End
16	North End
17	Government Center
18	Charlestown
19	Sullivan Square
20	Navy Yard
21	Eagle Hill
22	Central Square

23	Maverick
24	Orient Heights
25	Jeffries Point/Airport
26	City Point
27	Dorchester Heights
28	Waterfront
29	West Broadway
30	Old Colony
31	Andrew/MEMc
32	Highway
33	South Station/Financial/Downtown
34	Chinatown
35	Bay Village
37	Cathedral/Villa
38	Columbus Ave
39	Lenox/Camden
40	Boston Medical
41	South Bay/Newmarket Square
42	Orchard Park
43	Madison Park
44	Dudley/Rox Crossing/Whittie
45	Mission Hill
46	Bromley/Heath
47	Egleston
48	Fort Hill
49	Washington Park
50	Blue Hill Ave
51	Grove Hall
52	South Dorchester
53	Columbia Point
54	Savin Hill
55	Uphams Corner
56	Jones Hill
90	Unnamed

57	Fields Corner
58	Bowdoin/Geneva
59	Four Corners
60	Codman Square
61	Franklin Field
62	Norfolk
63	Ashmont
64	Ashmont Hill
65	Popes Hill
66	Neponset
67	St. Brendans/Adams Village
68	Lower Mills/Adams
69	Mattapan Square
70	Unnamed
71	Forest Hills Cemetery
72	Roslindale Village
73	Unnamed
74	Unnamed
75	Arnold Arboretum
76	Forest Hills
77	Stony Brook
78	Jackson Square
79	Unnamed
80	Highland
81	Bellevue
82	The Grove
83	Unnamed
84	Readville
85	Unnamed
86	Wolcott Square
87	Fairmount Hill
88	Cleary Square
89	Stony Brook Reservation

3.4. Appendix D: Survey Scales Available by Survey Wave

The following table displays the survey scales available for each of the three survey waves: 2006, 2008, and 2010. An "X" indicates that the scale is available for a particular wave.

Survey Scale	**Variable Name**	**2006**	**2008**	**2010**
Abuse	*Abuse*	X	X	X
City Engagement	*CtEng*	X		
Gang Activity	*GangAct*	X	X	X
Intergenerational Closure	*IntgenClos*	X	X	X
Neighborhood Involvement	*NbhdInv*	X	X	X
Physical Disorder	*PhysDis*	X	X	X
Police	*Police*	X	X	X
Reciprocal Exchange	*RecipExch*		X	X
Reporting Crime	*ReportingCrime*			X
Social Cohesion	*SocCoh*	X	X	X
Social Control	*SocCon*	X	X	X
Collective Efficacy	*CollEff*	X	X	X
Social Disorder	*SocDis*		X	X
Social Network	*SocNet*	X	X	X
Suicide Attitudes	*SuiAtt*	X		
Unsafe	*Unsafe*	X	X	X

3.5. Appendix E: Reliability Measures for Survey Scales

The reliability measures for each of the 15 survey-based scales are below. In the ICC columns, the ICC is represented with its accompanying significance and the reliability is in parentheses.

Survey Scale	Alpha	ICC (Reliability) by Tract for 2010	ICC (Reliability) by Block Group for 2008-2010 Combined
Abuse	0.79	0.02** (0.20)	0.13*** (0.4)
City Engagement (*CtEng*)	0.50^	0.03** (0.24)^	
Gang Activity (*gangact*)	0.92	0.15*** (0.57)	0.13*** (0.4)
Intergenerational Closure (*IntgenClos*)	0.82	0.09*** (0.47)	0.02* (0.12)
Neighborhood Involvement (*NbhdInv*)	0.55	0.01 (0.1)	0.06*** (0.27)
Physical Disorder (*PhysDis*)	0.73	0.15*** (0.6)	0.14*** (0.46)
Police	0.51	0.01* (0.14)	0.17*** (0.52)
Reciprocal Exchange (*RecipExch*)	0.83	0.05*** (0.34)	0.02* (0.1)
Reporting Crime (*ReportingCrime*)	0.72	0.05*** (0.35)	0.06*** (0.27)
Social Cohesion (*soccoh*)	0.81	0.10*** (0.5)	0.05*** (0.14)
Social Control (*soccon*)	0.78	0.08*** (0.46)	0.14*** (0.46)
Social Disorder (*SocDis*)	0.87	0.15*** (0.61)	0.10*** (0.38)
Social Network (*SocNet*)	0.34	0.05*** (0.35)	0.09*** (0.34)
Suicide Attitudes (*SuiAtt*)	0.78-0.80^	0.003 (0.02)^	
Unsafe	0.72	0.12*** (0.57)	0.07*** (0.3)

Note: ^ Indicates that the measures are from 2006 as that was the only wave that included the scale.

*** - $p < 0.001$, ** - $p < 0.01$, * - $p < 0.05$