DEFINING BULLYING: A SPLIT-BALLOT SURVEY EXPERIMENT

by

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DEDICATION

I dedicate this dissertation to my late mother, Selina Anne Cidade.

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ABSTRACT

DEFINING BULLYING: A SPLIT-BALLOT SURVEY EXPERIMENT

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A robust literature across disciplines - including sociology, education, psychology, and public health - documents the extent of the bullying issue in America's schools. However, much of this research simply cannot be compared since each data source uses a different definition of bullying. To ameliorate the issue of apples-to-oranges comparisons in the rate of bullying victimization, researchers at the Department of Education changed the way they asked about bullying in school on the 2015 collection of the School Crime Supplement to the National Crime Victimization Survey (NCVS) to align with the CDC uniform definition of bullying. To maintain trends over time, the survey included a random assignment split-ballot survey experiment introducing questions aligned to the uniform definition. Using a social-ecological paradigm of nested social systems, I examine the results of the split-ballot survey experiment and demonstrate that while the bullying victimization estimate drops under the new

definition, the new definition does not result in better predictive models. Ultimately, the project of refining and redefining measurement on bullying victimization is part of a larger social process, in which the production of official statistics is an important part of public discourse and problematizing social behavior. As such, even though the measures themselves may be imperfect, the process of revisiting operationalizations of social constructs is vital to the revitalization and saliency of important social problems.

CHAPTER 1 : INTRODUCTION

I. Introduction

In her 2013 book, *Sticks and Stones: Defeating the Culture of Bullying and Rediscovering the Power of Character and Empathy,* reporter Emily Bazelon outlines horrific incidences of peer aggression and victimization among school-aged children, including ostracism, physical abuse, and destruction of property. According to Bazelon, the results of this behavior lead students to academic and social ruin, emotional turmoil, and in some cases, suicidal ideation or worse. In the end, however, she calls for "applying the bullying label carefully and sparingly" because of "the stigma it carries for kids" (299).

What of that label – bully – and the incidences to which it is applied? When is peer aggression labeled as bullying, and why? And what are the approaches to measuring bullying that have produced useable data for academicians and practitioners alike? My research investigates what the label "bully" means as a methodological concept, and the incidences and circumstances to which it is applied. I ask the questions: When is peer aggression labeled as bullying, and why? And, what is the larger social project that the operationalization of bullying is trying to achieve?

A cursory glance at the literature on bullying reveals a startling reality: the definition of the phenomenon of bullying, along with the corresponding

operationalization and measurement, is contentious and varies from study to study. Some researchers emphasize the actions involved, asking about incidences of physical violence, social exclusion, or property destruction. Others emphasize the social relationship of bullying, instead asking more about the power differential between bully and victim, or the threat of or actual repetition of the behavior. Are researchers talking about the same phenomenon when they ask about bullying if they are using different sets of measurements? And how close to the actual lived social world of school-aged children is the construction of bullying?

Insomuch as there are many definitions of victimhood, so too are there many lenses through which to understand victims of bullying. Some choose to look at student characteristics – race, gender, and others – while some look at school characteristics like school connectedness or climate. Some emphasize peer networks and relationships as the major predictor of victimization. Still others pull the lens out further and use cultural and social institutions, social institutions, like patriarchy and racism, or even social change over time, as predictors of bullying victimization.

In 2014, the Centers for Disease Control and Prevention (CDC) reviewed the burgeoning literature on bullying and, in recognition of the plurality of definitions and measurements, published a uniform definition of the term to guide researchers in operationalizing the phenomenon. This new definition attempted to tie together the public health perspective (focused on unequal power and repetition), with the behavior

and consequences focus of the educational community. The result was the following CDC uniform definition of bullying:

> Bullying is any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated. Bullying may inflict harm or distress on the targeted youth including physical, psychological, social, or educational harm. (Gladden et al. 2014: 7)

II. Consequences of a Uniform Definition

One consequence of the published uniform definition of bullying is that the biennial data collection of the School Crime Supplement (SCS) to the National Crime Victimization Survey (NCVS), a survey of students in grades 6 through 12, and one of the major sources of national bullying victimization estimates, was not in alignment with the CDC uniform definition.

The SCS is a joint federal project, sponsored by the Department of Justice's Bureau of Justice Statistics, collected by the Department of Commerce's Bureau of the Census, and housed at the Department of Education's National Center for Education Statistics. These three agencies, in consultation with expert contractors, academicians, educators, and community practitioners, instituted the SCS Split-Ballot Experiment during the 2015 fielding of the SCS. In this split-ballot experiment, a randomized half of the sample received the standard bullying questions (emphasizing behavior), while the other

randomized half received an experimental version of questions (emphasizing the CDC definition).

Since the experiment was randomized, the responses of the two groups could then be compared to see which produced the better quality estimates of bullying victimization. It could be expected that either the old version (the 'control') or the new version (the 'experimental') might be best predicted using known predictive variables. An analysis of the results of the split-ballot experiment clarified that there is no persuasive evidence that either measure outperforms the other with regard to data quality or predictive power. Neither measure produces the kinds of highly predictive models that might be expected from such an experiment. In fact, their predictive power is about equal, as measured by comparing the pseudo R-squared values from a series of logistic regressions predicting on each operationalization.

This begs the question – if neither of the two constructions of the bullying victimization question is better than the other at collecting these data, and practitioners, experts, and even federal agencies do not agree on a definition or operationalization of bullying, why was this construction revisited in the first place? To answer this question, the project of measuring bullying must be placed in a larger social process: the role of the production of official statistics in social drama, the public discourse surrounding social issues.

III. Social Drama and the Case for Measurement

Thinking about the redefinition of bullying, and the subsequent project of operationalizing that redefinition, the whole process of the production of official statistics is brought into focus. One important role of official statistics is to define, measure, and inform public problems. In doing so, the explicit drive for the National Center for Education Statistics may be to push toward better learning environments for students. At the same time, though, the production of these statistics themselves move the conversation around bullying from highly publicized but individual events to a wider understanding of the social experience. By collecting wide-scale data on bullying victimization, policymakers and others can shift their focus from a few horrific stories about bullying to the larger patterns and trends around the behavior for context. In doing so, these official statistics can reveal meaningful inequalities and can foment social movements for disadvantaged groups, contribute to a better-informed polity, and result in evidence-based policy decisions.

In this project, I will begin to peel back the layers of how bullying has been categorized in academia and in the field. In Chapter 2, I lay out the various predictors of bullying victimization to inform the analysis of the split-ballot experiment, including individual characteristics, micro-, mezzo-, macro-level systems and more. Taking all of these nested systems in turn and as part of a fuller picture of bullying, I use the social-ecological framework (first developed by developmental psychologist Urie Bonfenbrenner) as a means of organizing the conversation in the academic literature

surrounding the predictors of bullying victimization. The social-ecological framework demands that social phenomenon be examined within the context of interrelated systems, and that focusing only on individual characteristics misses the larger social picture. This chapter will place bullying within these interrelated systems in an attempt to understand the phenomenon with the individual at the center, but moving out to the nested systems in which that individual functions.

In Chapter 3, I carefully disassemble the various definitions and measurements of bullying with an eye toward differences in emphases of question series and methodologies. In Chapter 4, I outline the SCS split-ballot experiment – from the initial cognitive testing of question formation through the fielding of the survey – and in Chapter 5, I analyze the two estimates using the social-ecological framework laid out earlier.

This analysis will demonstrate that neither measure of bullying is of better quality than the other. Finally, in Chapter 6, I argue that the entire project of measuring bullying victimization has less to do with the way it is measured and more to do with why it is measured: as a means of defining, measuring, and contextualizing a set of problematized behaviors in youths. I end with a discussion of the implications of this work on the discipline of sociology, as well as the ways that sociologists can act in dialogue with multiple audiences, including policy makers, methodologists, advocates, and the general public.

CHAPTER 2: PREDICTORS OF VICTIMIZATION AND PERPETRATION OF BULLYING

I. Introducing Frameworks of Bullying

Research on bullying specifically, and peer victimization in general, is an interdisciplinary effort. Some explanations for the behaviors are rooted in psychological and individual explanations, and arise from the fields of psychology, education, and biology. These explanations tend to be focused on the individual drivers of bullying, both in dyads and in small groups. Other explanations focus on larger groups and group dynamics. These tend to emphasize group power structures and competition for social status, and are mostly put forth by sociologists, economists, and some educators. Finally, some theories of the motivations of bullying are more macro level in approach, and tend to emphasize the structural and institutional support for peer aggression and bullying; these are almost exclusively sociological projects, but are informed by anthropology, political science, and other disciplines.

This chapter examines the academic research on bullying, victimization and perpetration. Because the literature is both broad and deep, each area of investigation is nested under an aspect of the social-ecological framework. In this way, not only are the studies organized and approached systematically, this larger framework informs later data analyses in this sociological project. First, this project describes the concepts

of the social-ecological framework and how they pertain to the study of bullying. While some academicians and practitioners have used this framework to approach their work, the structure described by Espelage and Hong (2012) guides the structure of this chapter. Each of the discrete parts of their description of the framework is taken in turn to uncover the broad spectrum of research into bullying.

II. Socio-Ecological Framework

Given the integrated nature of the construct of bullying, the most efficient way to consider the predictors and factors related to bullying is through the use of a social-ecological approach. In his groundbreaking 1979 work, *The Ecology of Human Development*, developmental psychologist Urie Bronfenbrenner outlines a theory of social ecology as a result of his perceived "marked asymmetry" of social research, "focusing on the properties of the person and only the most rudimentary conception and characterization of the environment in which the person is found" (16). As a result of this individualistic focus, he puts forth a framework that broadens the perspective, or "requires examination of multi-person systems of interaction not limited to a single setting, and must take into account aspects of the environment beyond the immediate situation containing the subject" (21). The social-ecological paradigm argues "all individuals are part of interrelated systems that locate the individual at the center, and move out from the center to include all systems that affect the individual" (Swearer and Espelage 2004: 3). While Bronfenbrenner's emphasis was on human development, his

framework has been adapted to study many social phenomenon, including bullying and peer victimization.

This approach, which considers the various individuals and institutions interacting in the construction of bullying, has been suggested by a number of scholars. Calls for more social-ecologically grounded research into bullying argue that research on bullying has been too focused on "the individuals involved in bullying at the expense of the social, institutional, and societal contexts within which it occurs" (Horton and Forsberg 2015: 8), and demands a more holistic, more integrative approach to studying bullying.

One such call comes from Robert Thornberg, who uses the parable of the elephant and the blind men as a metaphor for studying bullying. In this metaphor, each of the blind men can touch a part of the elephant's body. The men then compare experiences, and find that they have different understandings of the elephant because they each have come in contact with only one small part. With regard to bullying, Thornborg argues that by examining individual factors of bullying separately, the full picture can never be understood, since "bullying has to be understood as a social phenomenon that is established and perpetuated over time as the result of the complex interplay between individual and contextual factors" (2015: 182). In this way, one can only gain a fuller understanding of bullying by placing it within a wider landscape of factors at play. He goes on to argue that the social-ecological framework speaks to other paradigms, including symbolic interactionism, structural and post-structuralism, conflict theories

that focus on dominance at both interactional and institutional levels, and others. In this way, social-ecological frameworks acknowledge and embrace both agency and structure (184), recognizing that while individual choices may impact outcomes, they are ultimately restrained by institutional structure.

In response to Thornberg's elephant and blind man metaphor, Horton argues that the picture is even more integrative than just parts making up a whole. Instead, he opts for a Russian nesting doll (Matryoshka) metaphor: the parts are nested within each other, and build off of each other. He argues that the attention of the field is myopically focused on the individual (2016: 16). In his assessment, even the microsystem and mesosystems focus too narrowly on the individual within the systems, and not necessarily the systems themselves (Horton and Forsberg 2015: 8).

In this way, his critique is not about the paradigm per se, but rather the application of the paradigm as skewing its orientation towards the individual, that is, the bully and his/her victim. He calls for a social-ecological review of bullying to include "thinking about school bullying not only as the interactions between individuals or groups of individuals, but also in terms of those individuals and the environments within which their interactions are situated and which influence those interactions" (17). He then calls for more attention to the macro system – what he calls "the doll from which the other dolls stem, and the only doll visible when the bullying doll is fully assembled" (16).

Social-ecological work has informed large-scale statistical investigations into the nature of bullying. Barboza, et al. (2009) used the international World Health Organization (WHO) “Health Behavior in School Children” (HBSC) survey to examine bullying in its nested forms, including variables that spoke to macro-systems (e.g., the effect of the media), microsystems (e.g., peer and family support systems), and individual characteristics (e.g., self-efficacy). At each level, the researchers found "statistically significant effects, suggesting that the conceptual understanding of bullying behavior is advanced by using an ecological model as a theoretical lens" (116). Since Barboza et al. used multiple levels of analysis in their models, they were able to look at the ways that these levels interact with each other. They analyzed how demographic and mezzo level variables interact with TV consumption and school characteristics to gain a clearer picture of bullying victimization (118).

With the social-ecologic framework in mind, researchers Álvarez-García, García, and Nuñoz (2015) systematically reviewed refereed journal articles and developed a nested model for studying bullying. In their schematic, bullying should be studied from the viewpoint of individual factors (including student socio-demographic, physical, and psychological factors), school factors (including academic commitment, relationships with fellow students, school climate, and school satisfaction, among others), and family factors (including socioeconomic status of the family, family structure, and parental education, among others).

While this framework provides a lens for looking at individual and micro-level interactions, and perhaps even extends to the mezzo level through examining school climate, it is limiting in its approach. It nests the student only within family and academic systems, and fails to acknowledge that even these systems are nested within still larger social structures. As such, while Álvarez-García et al. may inform the data analysis for this research project, a fuller model of the social-ecological framework related to bullying will be used.

Prolific bullying scholars Susan M. Swearer and Dorothy L. Espelage take the call for social-ecological modeling of bullying one step further, by providing a framework for the study of bullying. This framework is sensitive to the "complex interplay between inter and intra-individual variables" situated within an "ecology that establishes and maintains bullying and victimization behaviors" (2004: 1). That is, the social-ecological framework for bullying must consider the person-to-person victimization, the within group dynamics, and the structural variables at play.

Espelage, with co-author Jun Sung Hong, goes even further and defines the social-ecological model of studying bullying as one that contains overlapping spheres including ecological risk/protective factors, microsystems, mesosystems, macrosystems, and chronosystem (2012: 313). This organizational schema recognizes that "bullying victims and perpetrators are part of complex, interrelated system levels that place them at the center and move out from the center to various systems that shape the individual"

(313). This assertion is very much in keeping with Bronfenbrenner's (1979) description of the social-ecological framework as the interplay of individual and environment. This framework will inform the remainder of this review about research on bullying, as well as later statistical analyses for this project.

III. Youth Characteristics

By far, the most fully developed literature exploring predictors of bullying behavior centers on youth characteristics; this research tends to emphasize demographic characteristics or psychological or personality traits as being determining drivers of engaging in bullying behavior or bullying victimization. Psychologically - centered research tends to link bullying with factors such as depression and anxiety, learning/developmental issues, intelligence and personality. Demographically driven research tends to link bullying behaviors with ascribed statuses like age, gender, race, sexual orientation, and others.

The most commonly analyzed predictors of bullying often center on reported bullies' personalities. Some researchers emphasize "types" of personalities that may or may not be more likely to engage in bullying, while others argue that individual characteristics of overall personalities are the best predictors of bullying behavior. For example, De Bolle and Tacket (2013) argue that children who are involved in bullying – as perpetrators, victims, or bully/victims – exhibit a distinctive personality profile that shows evidence of "under-controlled benevolence and low conscientiousness" and "low

extraversion and low emotional stability" (286). Farrell et al. find that on a measure of six dimensions of personality typology, different personality types engage in different types of bullying, such that "certain adolescents may have stronger inclination for one subtype [of bullying] versus another that is due, in part, to different personality traits" (2014: 36).

These personality types are often labeled as disordered compared to other personality types. For example, Coolidge, DenBoer, and Segal (2003) compared 41 public middle school students in grades 6 through 8 identified by school counselors as having three or more bullying office referrals from administrators or teachers in a school year, with 41 peers without such referrals. They found significant differences between the administratively identified bullies and non-bullies, including "meaningful levels of psychiatric disturbances," and a "constellation of personality disorder features, including passive-aggressive, histrionic, paranoid, and dependent behaviors" (1565) compared with their non-bullying peers.

Interestingly, however, these same authors found no differences in levels of anxiety between bullies and non-bullies (1567), but did argue that those who bully show early development of personality disordered traits and neuropsychological dysfunction. Psychologists Jon Sutton and Edmund Keogh go so far as to label the bully personality as "Machiavellian," arguing that bullies engage in "a general strategy of creating a strong social identity at the expense of others" (2000: 453), and that students who bully have

a “desire for social success and the means for achieving it,” which “appear to make a unique contribution to [their] lack of empathy for victims” (454).

In addition to typologies of personalities associated with bullying, some scholars argue that specific personality parts are linked with bullying behavior. These specific personality traits include bullies having higher levels of neuroticism and anger (Mitsopoulou and Giovazolias 2015: 69). Underwood and Ehrenreich argue that children engage in bullying, not out of poor socialization or some completely disordered personality, but rather, because “they desperately want, and need, to belong” to a peer group, and that those who feel a lack of belonging may bully as a means of undermining victims’ sense of belongingness (2014: 265-266).

One particular part of the personality that is often linked with bullying behaviors is empathy. In a longitudinal survey of 268 students on empathy and involvement in peer aggression, Espelage et al. (2004: 55) found that empathy mediates bullying victimization, and is especially negatively predictive for females engaging in physical victimization. Ciucci and Baroncelli also find that an “uncaring disposition” is the most predictive characteristic for engaging in bullying, regardless of gender, victimization, and other statuses, and that this disposition leads to an “insensitivity to the emotions of others” (2014: 73).

In a sense, these authors argue that unconscientious children learn little or no empathy, which is a necessary element for engaging in bullying behavior. Not only do

these children lack empathy for other's feelings, they also lack the ability to "recognize and express their own emotions appropriately, manage theirs and others' emotions, and maintain control over strong emotions" (Schokman et al. 2014: 197).

One important – but less developed – part of the psychological literature on bullying addresses the neurobiological aspects of engaging in peer victimization. Crothers et al. (2014) argue that bullying in adolescence requires biological explanation alongside sociological, and that within the biological framework, both evolutionary and neurochemical considerations need inclusion. Some aggressive behavior may be evolutionarily adaptive, while other aggressive behavior hinges on the developmental changes in adolescence, including developing neurology from a still-growing brain and neuro-hormones that are particularly active during this phase of development (124 – 129). It is this still developing brain that Sommerville argues has the capacity for social evaluation (being judged by peers) but is not yet mature enough to understand fully the thoughts and actions of others (empathy) and that there is very little self-reflexivity due to brain structures at this point in development (2013: 125).

This combination of low empathy, low self-reflexivity, and high social evaluation is particularly toxic, as adolescents are acutely aware of social complexities and are responding newly to social sensitivities, but are not capable of the kind of empathy and self-awareness necessary to avoid victimization. A particularly attuned operationalization of this concept comes from Sijtsema et al., who find that as

adolescents mature, so too does the target, type, and goals of their bullying: "as bullies become adolescents, status goals (and especially…prestige) become more important, whereas in childhood, bullying is less strategic and immature" (2009: 64).

While some research centers on the psychological characteristics of bullies and victims, other research explores the relationships among demographics, bullying and victimization. Demographically, many studies have demonstrated a statistically significant association between being male and being bullied (Espelage, Mebane, and Swearer 2004), age – especially middle school – and bullying prevalence (Sentse, Kretschmer, and Salmivallie 2015: 672-673; Swearer and Cary 2003), belonging to race-based minority groups (Goldweber, Wassdorp, and Bradshaw 2013: 214-215; Connell et al 2015; Smokowski et al: 2013; Fisher et al. 2015: 1246-1248), sexual orientation (Berlan et al 2010), and physical abilities (Kukaswadia et al 2011; van Geel, Vedder, and Tanilon 2014; Blake et al. 2016: 6-8; Rose et al. 2015). [1]. In data analyses for this sociological project, these demographic characteristics will be included in models wherever appropriate.

[1] See Hong and Espelage (2012) or Espelage and Swearer (2003) for an extensive overview on demographic characteristics and bullying

IV. Microsystem

Microsystems – what Hong and Espelage describe as "individuals or groups of individuals within immediate settings with whom youths have interactions" (2012: 316) – place the individual within the smallest of social contexts. Microsystems are "patterns of activities, roles, and interpersonal relations…in a given setting" (Bronfenbrenner 1979: 22) in which individuals engage regularly. Relevant to bullying, these include peer relationships and networks, school life, and home life. Of particular importance in the microsystem are the hierarchies of status and power within these differing contexts. Peer status is a commonly explored microsystem in the studying of bullying perpetration and victimization. This work typically focuses on status issues and hierarchies, and revolves around three interrelated motivators for bullying: establishing identity separate from parents and other adults, social posturing for scarce resources, and renegotiating relationships as peer networks become increasingly complex. In the microsystem, bullying is seen as a tool for navigating complex, small-scale social relations.

During early adolescence, at the developmental stage when children are distinguishing themselves from their parents and other adults, bullying becomes representative of an "assertion of individuality and independence by exhibiting behavior [that] is antithetical to adult norms" (Pellegrini and Long 2004: 111). In fact, as students increase in maturity, their want for a separate social status increases, the likelihood of using bullying as a tool for securing such a status increases (Sijtsema, et al.

2009: 63). Philip Rodkin goes so far as to argue that peer groups can function as "vehicles of defiance and nonconformity" for children and adolescents who resist "adult-endorsed messages" (2004: 93).

But bullying behavior is more than just cleaving from family of origin to social status. Bullying is a form of aggression used "deliberately to secure resources" such that it is a form of "proactive aggression, and distinct from aggression which is used reactively…or in response to provocation" (Pellegrini and Long 2004: 108). In this way, bullying is a choice – a tool used to gain scarce social resources – rather than a symptom of some psychological issue or reaction or situation. This focus on vying for social standing argues that as relationships become more complex in middle and high school, students engage in aggressive behavior to solidify group dominance.

In addition to relationships becoming more complex, and a want to self-distinguish from parents and other adults, the transition from primary to secondary school (or to middle school) is a period of turmoil simply because of the reorganization inherent in schooling in those years. Bullying is often temporary, and reflects a desire to be prominent, and bullying behavior peaks "during times of social reorganization and uncertainty" like the transitions from elementary to middle school and again from middle to high school as a means of organizing or reorganizing the social hierarchy during times of flux (Juvonen and Graham 2014: 164-165). Bullying may increase during the middle school years as students vie for dominance in this newly shuffled social order

(Pellegrini and Long 2002: 273). In fact, in those cases where students are contained within one school through the transition from elementary to secondary school, bullying has been shown to decrease over this time period – there is no renegotiation of social relationships for these students (274).

This renegotiation of peer networks can have lasting impacts. In a year-long longitudinal study of more than 9,000 students in grades 7 and 8 in Finland, Sentse, et al. found that students who start associating with bullying victims are more likely to start being bullied, while students who start associating with those who are not bullied are less likely to be bullied, regardless of any school-level anti-bullying intervention (2014: 1416). In a follow-up article, Sentse, Kretschmer, and Salmivalli argue that the impact is greater for those who are victimized, such that “victimization contribute[s] to lower socio-metric status (lower peer acceptance or higher peer rejection) and vice versa,” and that while there are negative social impacts for bullies, “victims are worse off than bullies” socially (2015: 672). Juvonen and Graham (2014) echo his finding by arguing that beyond reorganizing the social hierarchy, bullying can also serve to reinforce boundaries and norms of the group. Those youths of "marginal social status" are also at "increased risk of prolonged or more severe peer victimization because these youths are unlikely to be supported or defended by any group members" (166).

Robert Faris and Diane Felmlee (2011) go even further, arguing that peer aggression[2] is not just a product of personal or psychological issues, but that it is a product of a struggle over peer status. In fact, the authors see a positive relationship between status and peer aggression – as peer status increases, so do instances of peer aggression. This leads to a self-perpetuating logic of bullying: "attaining and maintaining group status likely involves some degree of antagonistic behavior" (67). And peers socially reinforce it when they side with bullies in part to "protect their social status, reputation, and physical safety" (Juvonen and Graham 2014: 165). Note that this self-perpetuating aggressive behavior is limited to those students in the middle of the status hierarchy. Those at the very top do not engage in aggression because they have no one to challenge for position, and those at the very bottom of the hierarchy are not necessarily victims of aggression because they are not being challenged for position (Mouttapa et al. 2004: 329).

In addition to peer hierarchies, "school life" – comprised of three components, school connectedness, classroom culture, and teacher attitudes – is an important microsystem at play in bullying. School connectedness has been a topic of interest for education researchers and practitioners for at least the last 25 years. Students' connection to school – referred to in the literature as engagement, attachment, bonding, and other terms (Libbey 2004: 274)[3] – is usually measured using three

[2] Note: they did not limit their work to bullying, but included all forms of peer aggression.
[3] I choose the term "school attachment" as shorthand representative of all of these concepts. Note that this concept is different from "school climate" – school attachment has a focus on the individual's

indicators, as described below by Jimerson et al. (2003:7) and reiterated by Chapman et al. (2013):

- The affective dimension – which includes "students' feelings about the school, teachers, and/or peers;"
- The behavioral dimension – which is the "students' observable actions or performance, such as participation in extracurricular activities,…completion of homework, as well as grades, grade point averages, and scores on achievement tests;"
- The cognitive dimension – which includes "students' perceptions and beliefs related to self, school, teachers, and other students."

School connectedness has held particular importance because of the correlations of positive school connectedness and positive educational outcomes. School connectedness has been linked with positive mental and physical health (Azagba and Asbridge 2013; Gerard and Booth 2015; Bond et al. 2007), dropout prevention (Henry et al. 2012), and academic achievement (Blum 2005).

More recently, school attachment has been associated with lower levels of student aggression and bullying (Klein et al. 2012: 164-165; Mann et al. 2015: 482; Petrie 2014), such that there is a significant negative relationship between school belonging and early delinquency (Lucero, Barrett, and Jensen 2016: 169). This sense of belonging and connection has long term consequences: researchers Pryce and Frederickson followed more than 300 students over a four month period, surveying them both before and after students took a declaration to uphold the Anti-Bullying

perception of the institution, while school climate is usually a set of school characteristics, separate from the individual. While these concepts are nested, they are also discrete - see Wilson (2004: 293) for this important conceptual distinction and its relationship to aggression and victimization.

Pledge Scheme (a program designed to support schools in making school culture less aggressive). These researchers concluded that after the implementation of the program, self-reported incidences of bullying declined, and that "decreases in bullying and victimization were associated with positive changes in school belonging and classroom climate" (2013: 14).

Pryce and Frederickson's investigation combined school attachment and classroom climate, arguing that classroom climate is informed by the depth of attachment of students. However, Doll, Song, and Siemers argue that the prevalence of peer aggression can be mitigated or exacerbated by the classroom climate alone. When bivariate relationships between bullying and self-efficacy and self-determination are examined, they are important predictors of bullying. However, once the model is expanded to include classroom climate variables like peer inclusion and teacher-student relationships, only classroom climate variables are significant predictors of bullying. This suggests that the climate of the classroom may be more important than individual-level predictors of bullying (2004: 175-177).

Building on the importance of classroom climate, Garandeau, Ahn, and Rodkin found (through a study relying on peer nominations) that "status hierarchy of the classroom emerged as the most important factor for the social status of aggressive students, who were more popular and better liked in more hierarchical classrooms" (2011: 1706). In this case, more hierarchical classrooms – defined as the spread of the distribution of student popularity, such that the less widespread the distribution, the

more hierarchical the classroom – leads to more bullying. One might argue, though, that more bullying may lead to more hierarchy, as is described in the literature on peer status struggles and aggression.

Finally, Holt et al. (2004: 121-140) argue that classroom climate is simply a proxy for teacher attitudes, and that teacher attitudes have a major impact on the amount of bullying in classrooms. Their survey of almost 800 teachers and paraprofessionals in elementary and high schools put forth a framework of four distinct attitudinal constructs essential to predicting the amount of bullying in a classroom: equity (how equitable the teacher is to all students in the classroom), hostile climate (how teachers treat students and how they perceive they are treated by students), diversity (openness and sensitivity to diverse students), and intervening (the proclivity to intervene when students are acting aggressively toward each other). These four constructs each predict bullying in the classroom in important ways – equity, diversity, and intervening have negative predictive relationships with bullying, while hostile climate has a positive predictive relationship with bullying.

V. Mesosystem

Turning attention to the mesosystem, which includes "interrelations among two or more settings in which the developing person actively participates" (Bronfenbrenner 1979: 25), the most intimate institution to primary and secondary school students is the

climate of their school[4]. Mesosystems are localized systems that are external to the individual but within which the individual (and, in turn, groups of individuals, like classrooms) must function. School climate is a "contextual characteristic," a set of attributes of an institution that is apparent at both the group and individual levels (Machado Azeredo et al. 2015: 66) impacting both group and individual. School climate can deter violence, such that schools with a "climate of safety," those with clear rules and accepted regulations about bullying, create a space for victimized students to receive appropriate intervention and can reduce the risk of violence (Osher et al. 2006: 52; Machado Azeredo et al 2015: 73).

While school climate can act as a buffer against violence or as a means of restitution after the fact, it does not mitigate the impact of individual-level covariates like psychosocial and demographic variables (Wang et al. 2014: 369). However, researchers looked at a number of individual and school climate variables, including academic achievement, student social relationships, teacher-student relations, rules and regulations, and general school perceptions over more than 40 countries. Of these variables, "when examined cumulatively, Cumulative Negative School Perception (CNSP) measures were both strongly and consistently associated with the occurrence of bullying, as a perpetrator, as a victim, or as a combined bully-victim" (2011: 646) suggesting that even with individual level variables, school climate is an important

[4] For an extensive, though dated, overview of the ways of measuring school climate, see Anderson (1982).

predictor of bullying victimization. Note that many of the studies looking at mesosystem impact do so as either bivariate relations (mesosystem and bullying) or with a nod toward individual student characteristics, but seem to abandon the interactional order altogether. One goal of my research project is to bring all of these perspectives to the study of bullying victimization.

Beyond the wider school climate measures, specific characteristics of schools are related to bullying victimization. Perumean-Chaney and Sutton argue that characteristics of school safety have no impact on bullying victimization or students' feelings of safety at school, regardless of whether the type of school safety measure is physical (e.g., metal detectors, security guards) or trust-based (e.g., school safety pledges, programming) (2013: 582). Espelage, Polanin, and Low compared teachers' and students' perceptions of school climate, and the researchers noted that "students endorsed higher levels of bullying and victimization in schools where teachers perceived their school as having an aggression problem" and low levels of trust (301), suggesting that teachers' perceptions of victimization impact students' reports (2014: 301).

Even the composition of the school can make the difference in bullying victimization. Fisher et al. found that race and school diversity both influence peer victimization (both generally and race-specific), and that while white students report being bullied more than African-American students, in particular, white students "are

bullied more when in the ethnic minority in a school compared with other ethnic groups" (2015: 1248).

Of course, even the structure of the school is, itself, a nested system, with classrooms within schools within school districts. Gower et al. (2017) analyzed 208 school district anti-bullying policies for quality and extent, and then surveyed students from these districts on bullying, emotional distress, and school connectedness (N = 93,437). The authors found that "better quality policies were not protective for bullying-involved students" (179), and point to lack of funding, training, and implementation of these programs. This research suggests that even if the district promulgates a high quality anti-bullying policy, it may not translate into a difference in school or classroom climate.

At the same time, this logic may not hold for specific groups of targeted students. A 2015 study by the Gay, Lesbian, and Straight Education Network (GLSEN) found that while most school districts have anti-bullying policies, fewer have protections for LGBT youths. Those youths in districts with policies who know about the district policies are more likely than those that do not know about the policies to report instances of bullying to staff, suggesting that it is informing students about their protections that is the important implementation strategy of anti-bullying policies. The report urges wider spread adoption of LGBT specific anti-bullying policies.

VI. Macro system

The wider the ecological frame focuses, the more sparse the literature on bullying victimization. At the macro system level – the belief systems and ideologies framing the constituent parts of the ecological framework (Bronfenbrenner 1979: 258) – culture and social institutions are the major focus. Even these foci, though, tend to be calls for more research, rather than actual studies of the impact of culture and social institutions on bullying victimization. For example, Horton suggests that those studying bullying need to pan out wide and look at the big picture of culture because bullying behavior hinges on the ability to exercise power, which "depends on how [students] are positioned and position themselves according to wider societal norms regarding race, gender, sexuality, ability, size, bodily shape, social class, and so on" (2016: 211). Nowhere in his analysis does he challenge or even analyze the larger social structures; he opts instead to nod at them as being important, but not to engage them meaningfully. Carrera, DePalma, and Lameiras concede that bullying research has been focused on the bully-victim relationship and has "fail[ed] to adequately take into account the situational and sociocultural aspects of power and identity" (2011: 488). They argue that bullying can be a product of and reflective of larger social inequalities, as students may be bullied not because of who they are, but rather because they belong to a marginal racial or ethnic group or do not conform to gender and heteronormative norms (493). However, their investigations remain at the individual level, and do not include higher-level social institutions as variables in their models.

Australian feminist scholar Bronwyn Davies is most critical of this preference for individual-level investigations of bullying. In a 2011 essay, Davies argued that focusing on the individual actions of bullying, and not placing them into the larger social context of the event, prevents larger social change from taking place (2011: 283-284). By problematizing some peer aggression (bullying) over other types, teachers (and others) are asked to "make dubious distinctions between individuals' characters based on a reading of their intentions, and in turn, their relationship to the normative/moral order" (279). As a result, focusing on individual characteristics draws attention away from a larger project with "the focus being on identifying the individual perpetrator and individual victim, rather than asking how it is that the normative social order itself is an active player in the production of the behavior identified as a punishable offense against another" (279).

VII. Chronosystem

Finally, to fully understand the workings of bullying, the phenomenon must be placed into a chronological narrative, both at the individual life cycle level and as wider societal change over time. Bronfenbrenner carefully outlines how change over time is most important to family and peer group interactions over the life cycle, and says that these two structures have “special properties” related to “developmental potential” as primary settings of socialization and set an individual’s “developmental trajectory” (1979: 284-285). At the same time, while peer and family relationships change over the

life cycle, the understanding of the phenomenon of bullying has also changed over time.[5] This change – in measurement, understanding, and definition, will be further discussed in the next chapter.

VIII. Framing the Research

The nested social ecological framework will guide the analysis of the SCS split-ballot experiment. Modeling the resultant data will include special considerations for the ecological risk and protective factors, micro, meso, and macrosystems. Chapter 4 – outlining the data collection methods and analysis – will refer back to the social ecological model as a roadmap for guiding the data analyses.

[5] See Hymel and Swearer (2015) for a review of the past four decades of research on bullying.

CHAPTER 3: MEASURING BULLYING

I. Defining Bullying

While the academic and policy literature on bullying is rife with studies on the impacts, predictors, and prevention of bullying, the fundamental question, "What *is* bullying?" remains unclear. Researchers and policy makers have, for the most part, defined the concept on their own as their projects demand. The lack of uniformity in the characteristics of bullying makes comparing studies on the topic inconsistent at best, and impossible at worst.

Swedish psychologist Daniel Olweus is largely credited with the introduction of the term "bullying" into the academic lexicon. The earliest term for bullying was "mobbing." Olweus argues that he moved away from this term because it missed out on the one-on-one or several-on-one dynamic of bullying, and also because it "might lead to an overemphasis on temporary and situationally determined circumstances" (2013: 753), since in English, the term mob usually invokes a spontaneous crowd that disperses after a goal is met. His work in the late 1970s in Sweden and Norway included the first systematic research project on bullying by peers. In 1978, his book, *Aggression in the Schools: Bullies and Whipping Boys,* provided the framework for peer harassment and

bullying, and is still the seminal work on the topic (Olweus 1978). This early work was mostly concerned with the social dynamics of young students, with a particular emphasis on repetitive, systematic aggression carried out by a small group of students, and less concerned with a stringent definition of the phenomenon.

Olweus later admitted that the need for "a relatively clear and circumscribed definition became urgent in connection with the government-initiated campaign against bullying in Norway in 1983" (Olweus 2013: 755). It is within the context of this campaign that the first codified definition of bullying was established. At that point, the Olweus definition of bullying was (and remains):

> *"A student is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other students" (Olweus 1993: 9).*

Olweus further defines important terms in his definition of bullying. Negative actions include "when someone intentionally inflicts, or attempts to inflict, injury or discomfort upon another" (9); this inclusion introduces the concept of intentionality to the definition of bullying. Frequency of bullying – noted in the definition as repeatedly and over time – is included with "the intent…to exclude occasional non-serious negative actions that are directed against one student at one time and against another on a different occasion" (9). Repetition, then, becomes a key component of the definition of bullying.

Finally, Olweus sets limits on the concept of bullying, noting that the term bullying is not "used when two students of approximately the same strength are fighting or

quarrelling," but rather only when there is an "imbalance in strength (an asymmetric power relationship)" (10). Power imbalance is the third component of the Olweus definition of bullying. Olweus separates bullying from other forms of peer victimization using the power imbalance differential; he finds that victims of bullying "perceive significantly more threat and less control over their situation in addition to being more depressed, engaging in more wishful thinking, and seeking more social support" (Olweus 2010: 14) than other victims of peer aggression.

In the wake of Olweus' early work, the topic of bullying became (and remains) one of interest to academics, policy makers, and educators, even as definitions shifted. Perhaps the most comprehensive overview of the differing waves of bullying research was put forth by Monks and Coyne in 2011. These researchers noted that Olweus' major contribution to the field was not necessarily definitional, but rather, theoretical, in that he moved the research on peer aggression away from "mobbing" – group behavior – toward individual actions, "since much bullying appeared to be by one person" (36).

In the second wave of bullying research (from about 1989 to the mid-1990s), the goal was to establish a research program. During this period of time, bullying research begins using peer-nomination methodology, and the work moves beyond the original Scandinavian countries. At the same time, the issue of definitional differences become problematic, as more and more researchers in differing cultural milieus study the topic; during this time, there was "a broadening of researchers' definitions of bullying,

including indirect and relational bullying" (37). Building on this work, the third wave of bullying research, focused on the "introduction of participant roles in bullying" (37), occupies the academic and policy literature from about the mid-1990s until around 2004. At that point, the fourth and current wave of research, with an increased focus on cyberbullying, begins.

Since Olweus' work in the 1970s and onward, researchers have expanded upon the attributes of bullying. In 2003, prolific bullying researchers Dorothy L. Espelage and Susan M. Swearer called for a consensus definition on bullying "the most challenging aspect of bullying prevention programming" (Espelage and Swearer 2003: 367). Twelve years later, Swearer echoes this lament (with Canadian bullying scholar, Shelley Hymel) that there "may be no single 'gold standard' for accuracy" in measuring bullying (2015: 294). There are operationalizations of bullying that focus on behaviors, attitudes, victims, perpetrators, and other indicators (Thomas et al 2015; Espelage and Swearer 2003), and those that focus on the various cultural settings of the research (Smith et al. 2013).

In addition to multiple definitions and ways of operationalizing bullying behavior, there are also differing means of collecting bullying victimization estimates (Thomas et al. 2015: 135; Espelage and Swearer 2003). These include observations (including unstructured and structured observations and interviews); teacher ratings (whereby teachers identify the bullies and victims); self-report (students self-nominate as bullies or victims); and instruments (booklets, inventories, scales, and other psychological

tools).[6] By far, the most common means of collecting data for bullying victimization estimates is through questionnaires and surveys. Not only does this method protect student anonymity, it also allows for large-scale data collection and change over time. Using questionnaires, however, the burden of question interpretation falls to the respondent, which can lead to measurement error. As such, Cornell and Bandyopadhyay caution that "self-report measures are dependent on the student's understanding of the survey questions and his or her memory for events that may be unpleasant to recall" leading "some students...to inflate accounts of their experiences, while others may minimize or deny their involvement in bullying" (2010: 267).

We must reiterate an important distinction at this point: bullying is different from other forms of peer aggression and harassment. While bullying may be a subset of other kinds of aggressive behavior, it is unique, and has unique consequences to victims and perpetrators. The crucial difference lies in the power imbalance, and repetition aspects of bullying are of particular importance. Ybarra et al. (2014) argue that the main difference between bullying and other forms of peer victimization is the repetition and power differential, because students who report being bullied with these two characteristics present are more likely to report other psycho-social impacts, even when compared to youth who report being bullied without both features present. In this way, “differential power and repetition are key features for differentiating youth who are particularly affected by victimization” (297).

[6] See Crothers and Levinson (2004).

Radliff et al. find that bullying victims feel a higher external locus of control and hopelessness than those not involved with bullying (2015: 13-14). Beyond psychological or social issues, Vivolo-Kantor makes the argument that there is "the need to address bullying as a distinct construct that should be examined separately from physical fighting and aggression that is neither repeated, nor involves a power imbalance" (2014: 431) because it occurs in different frequencies in differing populations.

Finally, Cascardi et al. point out that the difference between harassment, peer aggression, and bullying lies in the power imbalance and repetition and that there are differing legal obligations for all three of these issues (2014: 258). By codifying the definition of bullying too broadly, schools "may be exposed to lawsuits by parents of victims demanding damages based on the school's failure to follow statute-based guidelines" for incidents that are not deemed bullying by the school but are under state law (267). These broad bullying definitions may "require schools to report and investigate every aggressive transgression, from playground teasing and roughhousing to aggravated assault" (269).

II. CDC Uniform Definition

Recognizing that bullying studies could not be compared because of their disparate definitions, several federal agencies formed the Federal Partners in Bullying Prevention Steering Committee; the Department of Education's National Center for Education Statistics (NCES) was involved in the committee as early as 2008. In 2014, the Centers for Disease Control and Prevention (CDC) issued *Bullying Surveillance Among Youths: Uniform*

Definitions for Public Health and Recommended Data Elements, a report designed to help stakeholders "define and gather systematic data on bullying to better inform research and prevention efforts" and "intended to improve the consistency and comparability of data collected on bullying" (Gladden et al. 2014: 1). In consultation with other federal agencies, bullying experts, and others, this document provides one, overarching definition of bullying. As mentioned in chapter 1, the CDC uniform definition is (7):

> Bullying is any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated. Bullying may inflict harm or distress on the targeted youth including physical, psychological, social, or educational harm.

This definition, then, echoes Olweus in that it includes aggression, repetition (or likelihood of repetition) and a power imbalance. On the other hand, while Olweus' definition includes intentionality, this one does not. The uniform definition is similar to the School Crime Supplement (SCS) definition because it includes how a victim of bullying may feel (as outlined by the different types of harm), but also resembles the Youth Risk Behavior Survey (YRBS) and Health Behavior in School-aged Children Survey (HBSC) definitions by including the actions of a bully ("inflict harm or distress on the target"). It specifies that siblings and dating partner aggression does not constitute bullying. In addition to the overall uniform definition of bullying, the CDC included modes and types of bullying including direct and indirect bullying, and physical, verbal, relational, and property damaging (7-8).

Some researchers and practitioners argue that the CDC uniform definition is the best way to measure bullying victimization. These authors tend to point out how all three of the components of bullying must be retained in order to distinguish bullying from other forms of peer victimization (Goldsmid and Howie 2014: 221-222; Ybarra et al 2014; Furlong et al 2010). In a general way, bullying is "equated to the concept of harassment, which is a form of unprovoked aggression often directed repeatedly toward another individual or group" (Hinduja and Patchin 2009: 11). However, bullying is more than just harassment, when "it continues over time and may be better equated to violence" rather than harassment (11). Note that in this context, the authors are not limiting their analysis to physical violence, but rather equating aspects of bullying as being more like violent victimization and less like harassment.

The CDC definition is clear in its indicators, eliminating the overly broad definitions of bullying that can lead to children being inappropriately categorized as victims. A bullying victimization label can lead to “pathologizing and carrying risks of creating dependency” in otherwise non-victimized children, while simultaneously “increasing the danger that those children with the most serious problems may be overlooked within the ever-expanding body of children categorized as victims” (Dixon 2011: 2). Some researchers, like Smith et al., have already begun to expand the CDC definition, including sub-criteria for the element of power imbalance that goes beyond the wording of the CDC definition, including being physically weaker, being verbally less fluent, lacking confidence or self-esteem, being outnumbered, lacking friends or social support, or

having a low status or rejected position in the peer group (2002: 28-30). It should be noted that while Olweus is a supporter of the CDC uniform definition, he also cautions that the increased attention on cyberbullying "is likely to result in an unfortunate shift in the focus of anti-bullying work if digital bullying is seen as the key bullying problem in schools" and that this shift "would probably also result in funneling a lot of resources in a wrong direction while traditional bullying...would be correspondingly downgraded" (2013: 768).

While the CDC uniform definition for bullying is a step in the right direction, it is not without flaws. Some researchers find the definition itself to be problematic; others refute the measurement techniques used to collect bullying data. Moreover, some researchers have begun suggesting changes, additions, and new ways of framing bullying that could replace or complement the CDC uniform definition.

III. The Problem of Definition

Some researchers have noted that the exercise of defining bullying itself is futile. Canty et al. argue that the struggle to define bullying is the result of the wide and varied types of bullying that are present in students' lives; indeed, the singular definition of bullying creates a construct mismatch whereby "the artificial homogeneity imposed by the conventional definition struggles to encompass the complex phenomena actually or potentially associated with the term" (2016: 53). This imposed homogeneity then leads to a mismatch between the "ways that childhood bullying is defined compared with the phenomenon of interest" (53). These researchers go on to argue that the development

of survey questions around bullying force students to use a mismatched construct by including priming for a response (i.e., definitions, logic checks, forced categories, and others). This priming "perpetuates the assumption that the conventional definition of bullying is universal, static, and correct, and that children's working definitions are inaccurate" (54) thereby preferencing the researchers' need for uniformity over the lived experiences of victims.

The struggle to appropriately operationalize bullying and related behaviors such as aggression is a fundamental problem in research because "aggression itself is a multifaceted construct with a long history and broad set of subtypes" (Bovaird 2010: 278), and bullying, as a subtype of aggression, is itself a multifaceted construct with a long history and subtypes (e.g., cyber-bullying, physical, social, emotional bullying, and others). In this way, attempting to nest types and subtypes of aggression under ever-changing definitional criteria is a fruitless project, leading to disjointed definitions, measurement error, and lack of comparability between studies. Future bullying research must involve attention to issues of measurement of these historical and nested understandings (Hanish et al 2013: 292).

One of the inherent issues in the bullying definition is its dichotomous nature: bullied or not bullied. In reality, bullying is not necessarily dichotomous, but rather can be on a scale of aggression from minimal to severe. A more comprehensive understanding of bullying would include "practices of everyday cruelty" that may not currently fit under the elements of bullying (Carrera et al. 2011: 492). A note of caution,

though: overly broad definitions of bullying may minimize the experience or include instances that are outside of the scope of the phenomenon.

Still others find fault with the structure of the definitions. Canty et al. rightly point out that since Olweus did not include girls in his initial research, from the start "there was no chance for girls' experiences to inform the development of [bullying] theory" (2016: 50). Most measures of bullying are not sensitive enough to 'indirect' forms of bullying, which are more likely to be perpetrated by girls; one solution might be to separate out indirect forms of bullying from direct forms of bullying, because taken together as a single construct, indirect forms might be masked (Bevans et al. 2013: 377-378).

Beyond the issue of gendered constructs, Greif Green et al. investigated the concept of self-identity and bullying victimization. These researchers surveyed 435 students who were victimized at school using two different operationalizations of bullying (the Olweus Bully/Victim Questionnaire – BVS – and the California Bully Victimization Scale – CBVS). While the BVQ gives a 207 word definition of bullying including each of the Olweus identified aspects of bullying, the CBVCS asks about eight forms of victimization and respondents are asked to rate the event frequency of each. Researchers found that the rate of bullying victimization is higher under the CBVS – the instrument that does not include the word bullying; they argue that this may be because such survey items "require youth to have psychologically accepted the identity of being a victim of bullying" and that "students who self-identify as victims are qualitatively

different from those who have experienced similar victimization behaviors but do not endorse the bullying label" (2013: 655) for themselves. This suggests that the word "bully" has to be a part of the respondent's self-identity in order to activate an affirmative response to survey questions, regardless of actual victimization.

It is in this gap – between self-identity and construct definition – that the operationalization of bullying falls short. Survey instruments that have bullying definitions embedded in them "facilitated a shared meaning of bullying across all participants in a study," whereas those instruments that list a set of behaviors and ask respondents to indicate whether or not this has happened usually seek to "avoid individual perceptions, stigma, or bias associated with using the term 'bully' or 'victim,' and to examine the frequency of each type of behavior" (Thomas et al. 2015: 138).

One important research project – conducted by Vaillancourt, et al – set out to measure the distance between researcher definition and student conception of bullying. Using a survey instrument with personal interview debriefs, researchers asked students to define bullying. They found that the three main criteria of bullying – repetition, power imbalance, and intentionality – were "rarely mentioned in the children's definitions" of bullying (493); rather, "students tend to focus primarily on negative actions and rarely mentioned these three definitional criteria" (2008: 494). Additionally, not only are students using definitions outside of those provided on survey instruments, practitioners themselves must "develop a personal theory of bullying" because "the public body of knowledge offers them insufficient help" (Dixon 2011: 173).

And, specific to the CDC uniform definition, problems of conceptualization are present. For example, emphasizing repetition negates single instances of high trauma victimization (Carrera et al. 2011: 488). Likewise, while most researchers are interested in bullying at school, in fact, victimization can occur in many contexts and relationships (Monks and Coyne 2011: 1). In fact, a major shortcoming of the bullying definition as it is conceptualized by the CDC is that it is "mediated by our own understandings of what constitutes power" (Carrera et al. 2011: 492) and does not measure embedded power structures in society as forms of bullying: patriarchy is not a form bullying, and neither is social stratification, but both have aggression and victimization inherent in their expression.

IV. The Problem of Measurement

One major measurement debate in researching bullying is determining whether or not to include a definition of bullying for respondents . Providing a definition is a way of lowering the cognitive burden for response as respondents may "expand or restrict the meaning of concepts because the wording of a question evokes prototypes or exemplars that then dominate the definition of a concept" (Schaeffer and Presser 2003: 67). As such, providing a definition is a way of moving respondents past the obvious examples associated with a word or concept. Some researchers find that including a definition increases the prevalence estimates of the behavior (Solberg and Olweus 2003), while others find that the inclusion of a definition drives the prevalence down (Vailancourt et al 2008: 493; Kert et al 2010: 201).

Beyond definitional inclusion, the question of the number of survey items and response categories informs large-scale bullying research. Schaeffer and Presser argue that one valid way to ask about complex behaviors is to “allow respondents to answer using their native concepts and structure the sequence of questions so that the analyst can map native concepts onto the analytic concept." (2003: 70). In this way, researchers could gather victimization data as open-ended, and then categorize the responses as needed. Thomas et al. (2015) argue that the question of how many survey items to include on bullying is a product of the research aim. If the aim is to "estimate and compare the prevalence of bullying victimization and perpetration in general, single global questions are used to categorize students as having been 'bullied' or 'bullied others'" (139). For those projects where the aim is to "estimate the prevalence of different forms of bullying or to examine multidimensional conceptual models, to track changes in bullying behavior over time, a multi-item scale is more relevant" (139).

Other aspects of survey questions impact the prevalence estimates, too. Timeframe plays a role in the differing bullying estimates. Certain kinds of bullying studies set up the differences in estimates, such that "studies that ask briefer and more general questions, that include younger children, and that study shorter periods of time are the most likely to have the lowest estimates of cyberbullying" and bullying (Kandel Englander 2013: 36). Mode effects play a role, such that violent victimization is best collected through self-administration, and other types of victimization and questions of safety might be less prone to interviewer effect (Laaksonen and Heiskanen 2014: 476-

477). At the same time, Cornell et al. caution against using student self-reports altogether citing that definitional interpretation and recall burden may lead "some students…to inflate accounts of their experiences, while others may minimize or deny their involvement in bullying" (2010: 267).

Recently, some researchers have begun working toward a new definition of bullying. These new definitions attempt to rectify a specific aspect of accepted bullying definitions. Volk et al. take issue with the component of intentionality. They suggest measuring "goal-directedness," as this would sidestep the issue of consciously intended vs. accidental or reactive aggression, so that bullying then becomes not only "intentional harm-doing" but also "goal-directed behavior that can serve to meet one or more adaptive goals." (2014: 329-331). Dixon deconstructs the entirety of the definition altogether, calling bullying a "wide range of processes [that] may generate repeatedly aggressive behavior that is targeted against one or more children who are unable to avoid or stop these attacks or to protect themselves against the effects of this behavior" (2011: 2). Notice that this definition – while more ambiguous in its language –still includes repetition (repeatedly), power imbalance (unable to avoid or stop or protect themselves), and intentionality (targeted).

V. Differing Bullying Estimates

The lack of uniformity in the definition of bullying contributes to the wide range of estimates on the prevalence of bullying. The three most commonly cited sources of national bullying estimates currently range widely in their reported rates of bullying. Although all three estimates are derived from self-reported surveys of youth, they use varying definitions of bullying and are therefore measuring different – though related – concepts[7]. The most extensive definitions – found on the Health Behavior in School-aged Children Survey (HBSC) and the Youth Risk Behavior Survey (YRBS) – outline for respondents the behaviors that constitute bullying (and those that do not), the power imbalance, and the repetitious nature of bullying. The School Crime Supplement to the National Crime Victimization Survey (SCS) provides the broadest definition, focused only on the victim's feelings about others' behaviors toward them. The differences in definition result in widely varying estimates. The SCS, with the broadest definition, has the highest national estimate of bullying, at 28 percent (Lessne and Harmlkar 2013). The YRBS estimates that 20 percent of respondents have been bullied (National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention), and the HBSC has the lowest estimate, at 11 percent (Iannoti 2013).

With all of these definitions in play, and with the differences in prevalence estimation, the definition and operationalization of bullying continues to be a point of

[7] Each of the three surveys also collects data on slightly different (but overlapping) populations.

contention for researchers and practitioners. Which is a "true" measure of bullying? What is, and is not, included in bullying, both from a methodological standpoint (i.e., how the question is asked), and from a respondent burden standpoint (i.e., how the question is understood)? The guidance from the CDC is reframing the field, but in what ways will this impact estimates on bullying?

The SCS estimates bullying at a higher prevalence rate than other similarly rigorous studies. Attempting to understand how much of the difference in estimation is due to differences in measurement, the Department of Education's National Center for Education Statistics embarked on a split-ballot experiment in the 2015 data collection round of the SCS[8]. The methodology of that split-ballot is discussed in the next chapter, as is an analysis of the differences in estimation.

[8] See table on page 48 comparing the different estimates discussed in this section

Table 1: Sources of National Estimates of Bullying

Source	Population	Definition	Year	Estimate	Agency Sponsor
School Crime Supplement	12 to 18 year olds	Now I have some questions about what students do at school that make you feel bad or are hurtful to you. We often refer to this as being bullied. You may include events you told me about already. During this school year, has any student bullied you?	2011	28%	Department of Education, National Center for Education Statistics, and Department of Justice, Bureau of Justice Statistics
Youth Risk Behavior Survey	High school students	The next two questions ask about bullying. Bullying is when one or more students tease, threaten, spread rumors about, hit, shove, or hurt another student over and over again. It is not bullying when two students of about the same strength or power argue or fight or tease each other in a friendly way.	2011	20%	Centers for Disease Control, Division of Adolescent and School Health, National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention
Health Behaviors in School-age Children	11, 13, and 15 year olds	Here are some questions about bullying. We say a student is BEING BULLIED when another student, or a group of students, say or do nasty and unpleasant things to him or her. It is also bullying when a student is teased repeatedly in a way he or she does not like or when he or she is deliberately left out of things. But it is NOT BULLYING when two students of about the same strength or power argue or fight. It is also not bullying when a student is teased in a friendly and playful way.	2010	11%	World Health Organization, Child and Adolescent Health Research Unit

CHAPTER 4: A SPLIT-BALLOT EXPERIMENT TO MEASURE BULLYING

I. Bullying by Definition: A Split-Ballot Experiment

A practical result of the publication of the CDC uniform definition is the need to update the surveys collecting bullying data to align with the revised definition. The School Crime Supplement (SCS) to the National Crime Victimization Survey (NCVS) is an annual survey of households in the United States. The SCS collects national-level data on students' reports of school crime. The survey instrument was designed by the Department of Education's National Center for Education Statistics (NCES) and the Department of Justice's Bureau of Justice Statistics (BJS). It asks students a number of questions about their experiences with and perceptions of crime and violence occurring inside their school, on school grounds, on the school bus, and from 2001 onward, going to or from school.

Additionally, the SCS includes questions about students' schools and behavior, such as preventive measures used by the school, engagement in after-school activities, perceptions of school rules, weapons and gangs in school, hate-related words and graffiti in school, and others. The survey was conducted in 1989, 1995, 1999, and biennially since 1999; each year of data collection has been fielded by the Department

of Commerce's Bureau of the Census. The SCS is a major source of national estimates of bullying in school and cyber-bullying anywhere.

To construct the sample frame for the NCVS/SCS, each month, the U.S. Census Bureau selects respondents using a rotating panel design.[9] Households are selected into the sample using a stratified, multistage cluster design. In the first stage, the primary sampling units (PSUs), consisting of counties or groups of counties, are selected and smaller areas, called Enumeration Districts (ED), are selected within each sampled PSU. Within each ED, clusters of four households, called segments, are selected. Across all EDs, sampled households are then divided into discrete groups (rotations), and all age-eligible individuals in the households become part of the panel.

Once in the panel, the NCVS is administered to respondents every six months (for a total of seven interviews over a three-year period) to determine whether they have been victimized during the six months preceding the interview. The first interview is considered the incoming rotation, while the second through the seventh interviews are considered continuing rotations. The first NCVS/SCS interview is administered face-to-face using computer-assisted personal interviewing (CAPI); the remaining interviews are administered by telephone using computer-assisted telephone interviewing (CATI) unless circumstances (such as disability, language, and others) call for an in-person interview. After the seventh interview, the household leaves the panel and a new household is rotated into the

[9] Please note: this section heavily depends on published technical documentation for the SCS. See Lessne and Cidade, 2017, for more information about the design and implementation of the NCVS/SCS.

sample. This type of rotation scheme is used to reduce the respondent burden that might result if households were to remain in the sample permanently.

The SCS questionnaire is administered after the NCVS to eligible persons in the sample. Eligibility includes those respondents ages 12 through 18 who are currently enrolled in a primary or secondary education program leading to a high school diploma or who were enrolled at some time during the school year of the interview, and did not exclusively receive their education through homeschooling during the school year[10]. All NCVS respondents aged 12 through 18 within NCVS households between January and June of the year of data collection are eligible to be screened for the SCS.

II. Data Handling

The larger purpose of the SCS is to make inferences about victimization in the 12- to 18-year-old student population in the United States. However, given the sampling design of the SCS, it is important to weight the sample of students to ensure it is similar to the entire population in this age group. The weights used in this analysis are those developed by the Census Bureau, based on a combination of household-level and person-level adjustment factors. A special weighting adjustment was performed on the SCS data, including non-interview adjustment factors to adjust the weighting for SCS non-interviews, in addition to non-interview bias from the NCVS overall. The result is an

[10] Persons who have dropped out of school, have been expelled or suspended from school, or are temporarily absent from school for any other reason, such as illness or vacation, can complete the SCS as long as they have attended school at any time during the school year of the interview. Students who receive all of their education through homeschooling are not included past the screening questions, and those who receive part of their education through homeschooling are not included in my analyses.

SCS person-level weight. This weight was derived using the final NCVS person weight with a within-SCS non-interview adjustment factor applied.

The sample of students selected for each administration of the SCS is just one of many possible samples that could have been selected, so it is possible that estimates from a given SCS student sample may differ from estimates that would have been produced from other student samples. This type of variability is sampling error, and it arises from using a sample of students rather than all students. The standard error is a measure of the variability of a parameter estimate. It indicates how much variation there is in the population of possible estimates of a parameter for a given sample size. The standard errors of the estimates for different subpopulations can vary considerably and should be taken into account when making comparisons. It should also be acknowledged that apparently large differences between estimates may not have measurable differences, which may be due to large standard errors.

Standard errors are typically developed assuming the sample is drawn with equal probability, called a simple random sample. Since the SCS sample is not a simple random sample, calculation of the standard errors requires procedures that are markedly different from those used when the data are from a simple random sample. To estimate the statistics and standard errors, data runs for this project used the Taylor series approximation method using primary sampling unit (PSU) and strata variables available in the data file.

III. The SCS Measures Bullying

Over the years of data collection, the SCS has become a major source for national prevalence estimates of bullying in school and cyber-bullying anywhere. Respondents answer questions on bullying in each year of data collection. However, the wording of the questions has shifted from year to year, particularly between 2003 and 2005.

Beginning in 2005, the operationalization of bullying changed from a one-dimensional yes/no question on bullying to a list of seven discrete bullying behaviors from which respondents are asked to choose. Selecting "yes" on any of these behaviors counts the respondent as being "bullied;" selecting "no" on all of the behaviors, or "no" on some behaviors and "don't know" or "missing" on others counts the respondent as being "not bullied." Note that respondents missing all data, or having "don't know" for all seven indicators, are dropped from the bullying analyses (set as missing). Because of this dramatic shift in questions' wording, the SCS bullying estimate trend line is truncated at the year 2005, as even minor changes in the wording of questions can "produce significant discrepancies not just in the marginals but also in the magnitude of association among items." (Bishop, et al. 1979: 782)

Even with the changes in the bullying question(s) over time, the 2013 SCS was not aligned with the CDC Uniform Definition for bullying published in 2014. While the SCS asked about aggressive behaviors that could inflict harm or distress, it did not specifically ask about a power imbalance, the repetition (real or perceived), or the harm

caused by the behavior. As a result, the NCES determined that the SCS bullying questions would need to be redesigned to align with the CDC definition.[11]

[11] See table 2 on page 55 for SCS Bullying Survey questions

Table 2: Bullying Question(s) for the School Crime Supplement Survey: 2001 to 2013

Year	Question(s)
2001	During the last 6 months have you been bullied at school? That is, has anyone picked on you a lot or tried to make you do things you didn't want to do like give them money?
2003	During the last 6 months, have you been bullied at school? That is, have any other students picked on you a lot or tried to make you do things you didn't want to do like give them money?
2005	During the last 6 months has any other student bullied you? That is, has another student… Made fun of, called names Spread rumors Threatened you Pushed, shoved, tripped Do things not wanted Excluded you Destroyed your property None of the above
2007 **2009** **2011** **2013**	Now I have some questions about what students do at school that make you feel bad or are hurtful to you. We often refer to this as being bullied….During this school year, has any other student bullied you? That is, has another student… Made fun of, called names Spread rumors Threatened you Pushed, shoved, tripped Do things not wanted Excluded you Destroyed your property None of the above

IV. Technical Review Panel

On August 12-13, 2013, the National Center for Education Statistics convened a Technical Review Panel (TRP) Conference to discuss changes to the SCS, particularly the bullying questions. The panel consisted of 30 experts, ranging from independent contractors to academics, federal bureaucrats from the Departments of Education, Justice, and the Census Bureau, and stakeholders from non-profit organizations and schools. The purpose of the TRP was to revisit the survey and examine the questions to determine which should change and which should be dropped (Zantal-Wiener and Lessne 2013: 2).

The experts at the TRP were frank about the lack of clarity in definitions of bullying from instrument to instrument, but also hesitant to settle on the intention or appropriate way of gathering bullying data. One expert said, hyperbolically, "We have had about 15 thousand definitions of bullying. There is no perfect definition, [but] the CDC definition is a great definition and a good starting point" (5). Another noted that by using the CDC definition of bullying, the intention of the question changed. Under the original wording, the intent of the question was the "degree" of bullying, but aligning with the new definition shifts the question's intent to "instance" of incidences (15). By moving to the new definition, the "intent of the question [stem] is for students to self-identify as a bullied student" (8) more efficiently (that is, in fewer questions) rather than to describe the ways in which they may have been bullied.

The tension between identifying and describing bullying in the question was a conversation around which the experts had some debate. One suggested that the SCS "focuses on the behaviors and whether they were repeated" (20); another echoed this call saying that the question should be "behavioral" (5), while a third argued that "there must be a way to get at the severity or degrees of bullying" (6) rather than just counting instances. However, others noted that the SCS in particular provides national estimates, not necessarily a description of the bullying. Another expert said, "the intent of the [question] stem is for the student to self-identify as a bullied student" (8) rather than to describe the bullying behavior. Another agreed, saying that while "on the NCVS crime questions, we ask 'what happened'," this is "different than a self-report attribute-based system like the SCS" because "it would be harder for students to define particular incidents of bullying [and] to allow coding of each incident" since incidences are not usually discrete (4).

A major concern of the TRP was the loss of trend data in the national estimates of bullying, if the question wording was changed. Experts first debated whether or not the loss of trend data was worth aligning with the CDC definition; one said "that is the core question: is it ok to lose the data in favor of moving toward a uniform definition?" (9). Another pointed out that there is "a lot of room for improvement" on the bullying questions, but that researchers "would lose trend data and would be starting over" (9). One reminded the group that the SCS bullying question has a history of change – in 2005, the bullying question shifted from a yes/no question to a listing of bullying

behaviors – and that the result was the rate of students identifying as bullied "jumped to 28 percent" because listing "the items [is] more concrete than trying to determine if you were bullied" with a yes/no question (12).

Along with the conversation about losing the bullying trend data, there was the concern that others might see the change as manipulative. One expert pointed out that since they could not provide trend data, they would "need to tell policymakers that we changed how we measured bullying so we don't have trend data for another few years," implying that this answer would not satisfy policymakers (9). Another pointed out that if the group of experts recommended changing the bullying question and the impact on the national estimates were dramatic, "the public might think that the Department of Education made the survey show that rates are going down" rather than understand that the change is a reflection of how the question is asked. Still these arguments were countered by one expert who pointed out that "if we stay with the current question, we are asking from an exemption" from compliance with the new definition, and that the SCS "won't be useful in new discussions" of bullying (9).

Although one expert called for an "immediate transition" to the new definition (12), even at this early stage of the redesign, some experts were advocating a split-ballot experiment, or at the very least, a pilot test. One called the new questions "definition 1.0" and called for the group to "put it out and test it" (5). Another suggested conducting a pilot survey where "half [of respondents] would include the old question stem and half the new stem" to see the changes in responses (10). In fact, such an

experiment “need not be large to obtain an answer as to how response rates would be affected using the new language” (19).

V. Results from Cognitive Interviews

In response to the suggestions for rewording brought forth by the Technical Review Panel, four researchers from the Census Bureau’s Center conducted 40 cognitive interviews for Survey Measurement. Cognitive interviewing is a method of pre-testing surveys that involves in-depth interviewing, paying particular attention to the mental processes respondents use to answer survey questions (Campanelli 2007). It uses a framework dependent on evaluating survey questions against their measurement objectives, including what the question is attempting to measure, and to what level of accuracy respondents can provide data in response. It is dependent on a “think aloud” technique that encourages respondents to “verbalize thoughts while engaged in a cognitive activity with little interjection by the interviewer other than” to keep the respondent thinking out loud (Willis and Lessler 1999: 135). In engaging respondents in this exercise, their cognition is slowed while not impacting their task performance; the act of asking respondents to think aloud while answering survey questions does not necessarily change their answers, even though it causes them to move through the survey more slowly (Ericsson and Simon 1984).

These respondents were split into two groups and were asked one of the two suggested new forms of the bullying question. For each group, respondents were both

asked to “think out loud” while answering the questions and were also asked a series of follow up questions and probes based on their responses. While both versions were found to be effective, the results of the cognitive interviewing demonstrated that question re-wording would impact the national estimates on bullying.

For round one of the cognitive interviewing, respondents were asked a single yes/no question about bullying, and followed up with yes/no questions on bullying behavior. The behavior listed is taken from the SCS 2013 instrument. The text of this tested version is:

- Round 1:

  Q: Now I have some questions about what students do at school that makes you feel bad or is hurtful to you. We often refer to this as being bullied. You may include events you told me about already. During this school year, has any student bullied you?

  A: Yes/No

  Q: That is, has another student…

  a. Made fun of you, called you names, or insulted you, in a hurtful way?
     Yes/No
  b. Spread rumors about you or tried to make others dislike you?
     Yes/No
  c. Threatened you with harm?
     Yes/No
  d. Pushed you, shoved you, tripped you, or spit on you?
     Yes/No
  e. Tried to make you do things you did not want to do, for example, give them money or other things?
     Yes/No
  f. Excluded you from activities on purpose?
     Yes/No
  g. Destroyed your property on purpose?
     Yes/No

The objective of testing this version of the question was “to assess whether there were any disconnects between the answers to a general yes/no question on bullying and the

specific incidents" described in the survey (Pascale et al. 2014: 14). Results of the cognitive interviewing for this version of the question demonstrated that the inclusion of specific behaviors may be increasing the counts of bullied students, such that "we had no instances of students saying 'yes' to the general question and then 'no' to the specific incidences" but "we found that some students said 'no' to the yes/no question, but then 'yes' to one or more incidents described" in the follow up question (14). Since SCS 2013 did not include the general yes/no question, but rather constructed a bullying variable based on responding yes to one or more of the listed behaviors, those students saying 'no' to the general question and 'yes' to a behavioral follow-up would have been counted as a bullied student under the 2013 SCS.

Census researchers then tested an alternative version of the bullying questions. In this case, students were presented a single bullying question with the complete definition of bullying embedded in the question stem. Specific behaviors were only presented as follow-up to those students who already identified as being bullied based on the yes/no single bullying question. The form of this question series was:

- Round Two:

  Q: Now I have some questions about bullying at school. Bullying happens when one or more students tease, threaten, spread rumors about, hit, shove, or hurt another student. It is not bullying when students of about the same strength or power argue or fight or tease each other in a friendly way. Bullies are usually stronger, or have more friends or money, or some other power over the student being bullied. Usually, bullying happens over and over, or the student being bullied thinks it might happen over and over.
  By this definition, have you been bullied at school, by another student, this school year?

  A: Yes/No

  IF YES

Q: Was any of the bullying verbal – that is, did it involve making fun of you, calling you names, or spreading rumors about you?
A: Yes/No
Q: Was any of the bullying physical – that is, did it involve hitting, shoving, tripping, or physically hurting you in some way?
A: Yes/No
Q: Was any of the bullying social – that is, did it involve ignoring you or excluding you from activities on purpose in order to hurt you?
A: Yes/No

Results of the cognitive interviewing on this version of the questions demonstrated that the question series seemed to work as intended. Those who answered yes to the general question then gave examples that seemed to fit the prescribed definition; those who answered no to the general question indicated that "nothing in their experience seemed to meet the definition of bullying" (Pascale, et al. 2014: 16). Researchers did point out, however, that while the question did not seem problematic, it is "quite long" and that "respondents are likely artificially attentive when being asked questions in a face-to-face lab setting" compared to out in the field via CATI or CAPI interviews; however, they also noted that "it does seem that the clear definition of bullying helps students decide how to answer the question" (16).

VI. The Split-Ballot

Once the recommendations from the Technical Review Panel and the results of the cognitive interviewing were analyzed, NCES moved forward with aligning the 2015 SCS bullying question series to the uniform definition provided by the CDC. To align the bullying definition for the SCS while still retaining the ability to compare estimates across years, NCES would need to collect the new data in a way that allows for a bridge

year to the old definition. The best way to collect these data was through the use of a split-ballot experiment imbedded in the instrument. Split-ballots are an effective tool for compensating for form effects (how the way questions are asked affects the responses to those questions). Since the early 20th century, Gallup and other major polling firms have extensively experimented with split-ballots. [12] The split-ballot experiment is a way of randomly assigning sampled respondents into two or more groups and either administering the established survey instrument (the "control" group), or the new survey instrument (the "experimental" group). According to Petersen (2008), as long as split-ballots meet four basic criteria, the results will be valid.

1. The experimental and control groups must be "identical with respect to all factors";
2. Both groups are "formed simultaneously and before the experimental factor is introduced" so as not to be post hoc in nature, and the "experimental factor is brought into play at the same time for both groups";
3. Both groups are independent of each other – that is, "the control group is completely shielded from the influence of the experimental group";
4. And the conditions for both groups are the same so that "the only difference between the two groups is the experimental factor" (2008: 323).

However, the split-ballot experiment has methodological limitations, too. It can, for example, "manipulate only a single factor, and the manipulated factor [can] assume only one of two values" (Sniderman and Grob 1996: 379). At the same time, it is only useful "to identify method-driven variance," and is not necessarily theoretically driven as we cannot ask why changing a survey question solicits a different response, we can only say that it does (380-381).

[12] See Bishop and Smith 1991 for an extensive overview of the Gallup split-ballot experiments

Even noting the limitations, it was determined that having the ability to continue the bullying trend line over time was the most important aim of the redesign next to alignment with the uniform definition, and the split-ballot experiment was the most efficient way to continue the trend. To accomplish this aim, then, half of the respondents to SCS 2015 were to be randomly assigned to either the control (established form) or experimental (new form) sample groups. The control and experimental groups shared the same questionnaire; only the approach to the bullying question vary. The resulting question series is presented in Table 3 below.

Table 3: Control and Experimental Question Series for SCS 2015

Control	Experimental	Rationale
Now I have some questions about what students do at school that makes you feel bad or are hurtful to you. We often refer to this as being bullied. You may include events you told me about already. During this school year, has any student bullied you? That is, has another student.... - Made fun of you, called you names or insulted you, in a hurtful way? - Spread rumors about you or tried to make others dislike you? - Threatened you with harm? - Pushed you, shoved you, tripped you, or spit on you? - Excluded you from activities on purpose? - Destroyed your property on purpose? - Tried to make you do things you did not want to do, for example, give them money or other things? - Excluded you from activities on purpose?	Now I have some questions about bullying at school. Bullying happens when one or more students tease, threaten, spread rumors about, hit, shove or hurt another student. It is not bullying when students of about the same strength or power argue or fight or tease each other in a friendly way. Bullies are usually stronger, or have more friends or money, or some other power over the student being bullied. Usually, bullying happens over and over, or the student being bullied thinks it might happen over and over. By this definition, have you been bullied at school, by another student, this school year?	This is the question that will determine the student's bullying status.
	Was any of the bullying verbal - that is, did it involve making fun of you, calling you names, or spreading rumors about you? Was any of the bullying physical - that is, did it involve hitting, shoving, tripping, or physically hurting you in some way, or the threat of hurting you in some way? Was any of the bullying social - that is, did it involve ignoring you or excluding you from activities on purpose in order to hurt you?	Collects data on the type of behaviors involved in the bullying incidents.
When you were bullied this year, did it happen over and over, or were you afraid it would happen over and over?		Answers the repetition definition requirement.
When you were bullied this school year, were you ever bullied by someone who had more power or strength than you? This could be because the person was bigger than you, was more popular, had more money, or had more power than you in another way?		Answers the power imbalance definition requirement
You just indicated that someone had bullied you during this school year. Thinking about all of the ways in which you were bullied, how often did all of those things happen?	You just indicated that someone had bullied you during this school year. Thinking about all of the ways in which you were bullied, how often did all of those things happen?	Experimental and control group realign for the remainder of the survey.

Ultimately, the review of the SCS instrument resulted in more than just changes to the bullying questions. A number of additional survey items were revised, added, or deleted, including:[13]

- Redesigned key bullying questions
- Reduced net number of survey items by 12
- Revised wording on 16 questions for clarity and updates to current terminology
- Added/revised instructions for respondents
- Renumbered all items to aid field representatives and researchers in tracking related sequences of items

In consultation with the Demographic Statistical Methods Division of the U.S. Census Bureau, the NCES determined that a true split ballot (50/50 random assignment) would produce estimates in differences in the bullying rate of 10 percent as significant.

VII. Analyzing the Split-Half

The first step to analyzing the results of the split-half experiment is to account for any differences in survey response between the two samples[14]. Before this work could begin, ineligible cases were dropped from the data file. This included dropping those who did not attend school at all, those who were homeschooled (for the full and partial school year), and those who were not in grades six through 12. These parameters are

[13] See Lessne and Cidade 2017 for a more detailed accounting of the additional changes to the SCS 2015 instrument.

[14] Van den Brakel, Smith, and Compton warn that one potential problem with a split-half experiment is the loss of precision of national estimates due to small sample sizes, since responses are split into two groups. They recommend that estimates be "refined as more post-data become available," (2008: 138) in subsequent data collection years.

the ones used by the NCES in previous analyses of the SCS. In January to June of 2015, there were 57,227 households eligible to complete the NCVS. The SCS questionnaire is administered after the NCVS to eligible respondents in the sample. Among those households participating in the in the NCVS, there were 9,372 respondents ages 12-18 who were eligible to complete the SCS in 2015. Among the 9,372 household members age 12-18, version 1 of the survey form (control) was assigned to 4,663 respondents (49.7%) and version 2 was assigned to 4,709 respondents (50.3%). Of the 9,372 age-eligible individuals in NCBS households, 5,469 completed the NCVS survey and were interviewed for the SCS. Once the responses were filtered by eligibility criteria described earlier, a total of 4,767 completed the survey, of whom, 2,317 completed version 1 (control) and 2,386 completed version 2 (experimental).

Table 4. Ineligible Cases Dropped from Analysis

	Control		Experimental		Overall	
	Unweighted	Weighted*	Unweighted	Weighted*	Unweighted	Weighted*
Total interviews	**4,663**	**----**	**4,709**	**----**	**9,372**	**----**
- Incomplete interviews	1,969	----	1,934	----	3,903	----
Total valid interviews	**2,694**	**14,231,000**	**2,775**	**14,786,000**	**5,469**	**29,017,000**
- Did not attend school	161	888,000	145	803,000	306	1,691,000
Total valid interviews and attended school	**2,533**	**13,344,000**	**2,630**	**13,982,000**	**5,163**	**27,326,000**
- Homeschooled at any point in the school year	65	326,000	92	501,000	157	833,000
Total valid interviews, attended school, no homeschooling	**2,468**	**13,018,000**	**2,539**	**13,488,000**	**5,007**	**26,506,000**
- Not in grades 6 through 12	151	707,000	153	835,000	304	1,542,000
Total valid interviews, attended school, no homeschooling, in grades 6 to 12†	**2,317**	**12,311,000**	**2,386**	**12,653,000**	**4,703**	**24,964,000**

This "cleaned" data file, then, could produce the estimates of the two measures of bullying, control and experimental. Unsurprisingly, including the definition of bullying on the survey instrument leads to lower prevalence estimates in bullying victimization.[15] Asking about bullying victimization by behavior, 20.8% of students in grades 6 through 12 report being bullied. However, when first given the definition of bullying and then asked a dichotomous question about bullying victimization, just 8.1% of students in grades 6 through 12 report being bullied.[16]

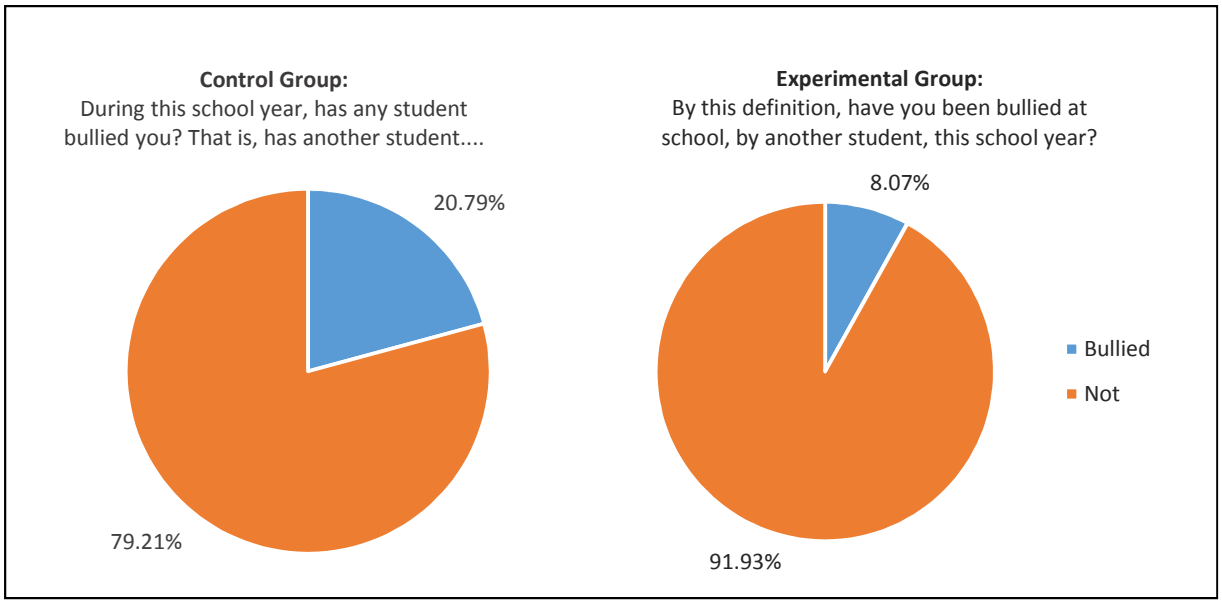

Figure 1: Percentage of students in grades 6 through 12 who reported being bullied or not bullied, by control or experimental bullying question

[15] See Solberg and Olweus 2003 for more on including definitions

[16] Note: Both the experimental and control estimates are weighted estimates. To apply the weight to each randomized half of the sample, take the overall SCS person weight and divide by 2 before applying to the data. All data were analyzed using SPSS Complex Samples to handle both the effects of the sample design and the weighting effects. For more on the weighting scheme of the 2015 administration of the SCS, including detail on weighting and the split-ballot, see Lessne and Cidade 2017: 12.

While this finding in itself is interesting – that changing the wording drops the prevalence estimates by more than half – it cannot be further explored until possible differences in the sample are accounted for. To do this, independent variables for both samples were compared using a student's t-test.[17] Examining student-level demographic characteristics, including sex, race, grade, and income, there are no significant differences between the experimental sample and the control sample. The same is true for school-level characteristics, including school region, type, locale, enrollment, FTE ratio, minority enrollment, and FRPL recipients. There are no significant differences between the control and experimental samples. With this in mind, it is now appropriate to test the sample for differences in additional constructs.

[17] Note: T-test was used for all variables, including nominal and ordinal, because this is the standard lower-level test of significance published by the Department of Education.

Table 5. Sample Characteristics Comparisons Using t-test for Equality of Means

	Control Sample		Experimental Sample		
	Mean	(SE)	Mean	(SE)	*t-test*
Demographic Characteristics					
Sex	1.5	(0.1)	1.5	(0.1)	0.8
Race	1.9	(0.1)	1.9	(0.1)	0.6
Grade	4.1	(0.1)	4.1	(0.1)	0.1
Income	4.9	(0.1)	5.0	(0.1)	-0.8
School Characteristics					
School region	2.7	(0.1)	2.7	(0.1)	-0.5
School type	1.1	(0.1)	1.2	(0.1)	-1.2
School locale	2.2	(0.1)	2.2	(0.1)	-0.5
School enrollment	3.5	(0.1)	3.5	(0.1)	-0.3
Student to full-time equivalent teacher ratio	2.7	(0.1)	2.6	(0.1)	0.2
Percent minority enrollment	3.1	(0.1)	3.0	(0.1)	0.4
Percent eligible for free and reduced-price lunch	2.4	(0.1)	2.4	(0.1)	-0.3

Notes:

Sex is coded: 1 = male; 2 = female

Race is coded: 1 = white; 2 = black; 3 = Hispanic; 4 = Asian; 5 = other or more than one

Grade is coded: 1 = sixth; 2 = seventh; 3 = eight; 4 = ninth; 5 = tenth; 6 = eleventh; 7 = twelfth

Income is coded: 1 = Less than $7,500; 2 = $7,500 to $14,999; 3 = $15,000 to $24,999; 4 = $25,000 to $34,999; 5 = $35,000 to $49,999; 6 = $50,000 and over

School region is coded: 1 = Northeast; 2 = Midwest; 3 = South; 4 = West

School type is coded: 1 = public school; 2 = private school no religious affiliation reported; 3 = private school, Roman Catholic; 4 = private school, other religious; 5 = private school, nonsectarian

School local is coded: 1 = city; 2 = suburb; 3 = town; 4 = rural

School enrollment is coded: 1 = less than 300; 2 = 300 to 599; 3 = 600 to 999; 4 = 1,000 to 1,499; 5 = 1,500 to 1,999; 6 = 2,000 or more

Student to FTE ration is coded: 1 = less than 13 students; 2 = 13 to less than 16 students; 3 = 16 to less than 20 students; 4 = 20 or more students

Percent minority enrollment is coded: 1 = less than 5 percent; 2 = 5 percent to less than 20 percent; 3 = 20 percent to less than 50 percent; 4 = 50 percent or more

Percent eligible for FRPL is coded: 1 = 0 to less than 20 percent; 2 = 20 to less than 50 percent; 3 = 50 percent or more; 4 = private school

Note: Missing data are not shown for each row variable. Overall unweighted sample size, without missing data, is as follows: Control sample = 2,317; Experimental sample = 2,386. Weighted values represent 24,000,000 students nationally.

It is important to note that the samples are not significantly different from each other using major demographic and school characteristics. These analyses were run on both weighted and unweighted data, with the same results: randomization works, the samples are the same, and I have no reason to suspect that differences are due to the samples being unequal.

Moving forward, then, I can test the two versions of the bullying question in terms of predictive power and modeling. To do this, I will return to the social-ecological model outlined in Chapter 2 and run a series of regression models on each of the bullying questions to see which is best predicted within the framework of known bullying predictors. Chapter 5 explores the results of these comparisons.

CHAPTER 5: ANALYZING THE SPLIT-BALLOT RESULTS

I. Data Quality

The two versions of the bullying question – the control, emphasizing bullying behavior, and the experimental, emphasizing the CDC uniform definition – produce very different estimates. While 20.8% of students in grades 6 to 12 report bullying victimization using the control questions, just 8.1% of students in grades 6 to 12 report bullying victimization using the experimental version of the question. But, which of the operationalizations has the best indicators of data quality? And which are best predicted by known predictors of bullying victimization? Using those two data points – best data quality and best predictive power – the two bullying constructs can be evaluated to determine if one is the 'better' measure of bullying victimization than the other.

The first, and easiest way, of assessing data quality for each of the bullying constructs is to look at the standard errors of the estimates. In this case, the standard error of the control group is slightly higher than that of the experimental group, though not so high as to render the control group of poor data quality. The control estimate is +/- 1% of any like sample of students in grades 6 to 12, compared to +/- 0.6% for the experimental estimate.

Using another measure – the proportion of missing data – for each construction, the control group has slightly less missing data than the experimental group. In all, about 0.2% of eligible cases left each of the control group behavioral indicators of bullying victimization blank, compared to about 0.4% of the experimental construct. Again, given the large size of the weighted estimates, neither of these missing values is cause for a determination of which is the better estimate.

A third test of data quality is to measure the reliability of the construct. Since the experimental question is just a singular, dichotomous question, its reliability cannot be measured in the same way as the control construct, which is a combination of seven yes/no behavioral questions. Looking at Chronbach's alpha, the seven variables have a reliability score of 0.984 – very high. At the same time, running a confirmatory factor analysis on the seven items, using principal component analysis (PCA), the components have an initial eigenvalue of 6.408, explaining 91.5% of the variance with one component load. Clearly, this construct is reliable.

Using descriptive statistical measures of data quality, then, the two versions of the bullying questions are about the same quality. While the control group has slightly higher standard error, the experimental question has slightly higher missing data. Another measure of data quality is to use variables identified in the academic literature as predictive of bullying victimization to see which construct is more predicted by these variables. Since the literature on this topic is so broad, the social-ecological perspective outlined in Chapter 2 will serve as the framework within which these constructs will be

tested. In this way, each of the nested systems at play in predicting bullying victimization can be represented in the data analyses.

II. Social-Ecological Paradigm Revisited

As more fully described in Chapter 2, the various predictors of bullying victimization in the nested paradigm of the social-ecological paradigm are present in some studies and not in others. In the case of the SCS instrument, however, I am able to use existing data points to measure four levels of bullying predictors: ecological risk/protective factors, microsystems, mesosystems, and marosystems. Borrowing from the framework put forth by Sung Hong and Espelage (2012:313), questions from the SCS can be mapped to each of the four component features of the social-ecological model. Additionally, I can look at school characteristics and demographic variables as predictors of bullying victimization as are the variables historically analyzed by the Department of Education. These five sets of variables will allow for a more complex and complete examination of the two operationalizations of bullying.

At the social-ecological level, the SCS has demographic data on each respondent, as well as questions measuring aspects of internalizing behavior, self-related cognition, and academic performance (Cook, et al 2010: 67). At the micro-level, the SCS collects data on the students' peer status by asking about relationships with other students at the school. Moving to the mesosystem, the SCS asks respondents a series of questions about the school climate, related to the macro-level structures that predict bullying

victimization. Finally, at the level of macrosystems, the SCS does not ask about social institutions specifically. However, race and sex patterns in terms of resource allocation and differential power within the educational systems in the United States can allow for sex and race to stand in as proxies for institutional discrimination. It is at this level that students are placed in the largest context – institutional – and these variables, while not perfect, do allow for some exploration of institution-level variance. These two variables will be examined together as representative of macro-level institutions, as well as within the context of the other social-ecological variables.

Table 6: Concept Mapping to the SCS Instrument

Level	Concept	Definition*	SCS Variable
Individual and School Characteristics	Individual characteristics	Includes those demographic variables known to be predictive of bullying victimization.	Respondent sex: Male Female Respondent race or ethnicity: White Asian Black Other or more Hispanic than 1 race Household income: $24,999 per year or less $25,000 to $49,999 per year $50,000 or more Region: South Midwest North West
	School characteristics	Includes those school characteristics known to be predictive of bullying victimization.	School type: Non-public Public School locale: Urban Town Suburban Rural Number of enrolled students: 599 or fewer 600 to 1,4999 students 1,500 students or more Ratio of full time equivalency (FTE) teachers to students: Less than 16 students 16 or more students Percentage of minority students enrolled: Less than 20 percent 20 to less than 50 percent 50 percent or more Percentage of students eligible for free or reduced-price lunches: Less than 20 percent 20 to less than 50 percent 50 percent or more

Level	Concept	Definition*	SCS Variable
Ecological risk/protective measures	Internalizing behavior	Internalizing behavior was defined as actions that are over-controlled in nature and directed inward, including withdrawn, depressive, anxious, and avoidant responses.	During this school year, did you ever stay away from any of the following places because you thought someone might attack or harm you there? a. For example, did you ever stay away from the shortest route to school, because you thought someone might attack or harm you? b. The entrance into the school? c. Any hallways or stairs in the school? d. Parts of the school cafeteria? e. Any school restrooms? f. Other places inside and outside the school building?† Did you avoid any activities at your school because you thought someone might attack or harm you? Did you avoid any classes because you thought someone might attack or harm you?‡ Did you stay home from school because you thought someone might attack or harm you in the school building, on school property, on a school bus, or going to or from school?
	Self-related cognition	Self-related cognitions were defined as children's thoughts, beliefs, or attitudes about themselves, for example, self-respect, self-esteem, and self-efficacy.	How often are you afraid that someone will attack or harm you in the school building or on school property? How often are you afraid that someone will attack or harm you on a school bus or on the way to and from school? Besides the times you are in the school building, on school property, on a school bus, or going to or from school, how often are you afraid that someone will attack or harm you?
	Academic performance	Academic performance included grade point average, standardized achievement test scores, and academic performance ratings.	During this school year, across all subjects have you gotten mostly: A's D's B's F's C's

Level	Concept	Definition*	SCS Variable
	Grade level	Student reported grade level in school.	What grade are you in? Sixth Tenth Seventh Eleventh Eighth Twelfth Ninth
Micro	Peer status	Peer status was defined as the quality of relationships children and adolescents have with their peers, including rejection, isolation, popularity, and likeability.[18]	[Would you strongly agree, agree, disagree, or strongly disagree that] there is a student at your school who: a. Really cares about you. b. Listens to you when you have something to say. c. Believes that you will be a success.
Meso	School climate	School climate was defined as the degree of respect and fair treatment of students by teachers and school administrators as well as a child's sense of belonging to a school.	Thinking about your school, would you strongly agree, agree, disagree, or strongly disagree with the following: a. The school rules are fair b. The punishment for breaking school rules is the same no matter who you are. c. The school rules are strictly enforced. d. If a school rule is broken, students know what kind of punishment will follow. ‡ e. Teachers treat students with respect.
Macro**	Macro-level Proxies	Using self-identified sex and as a proxy for social stratification based on these characteristics.	Sex Male Female Race White Asian Black Other or more than 1 race Hispanic

**Adapted from Cook, et al (2010: 67).*

***Note that these variables are also explored in the student-level demographic variables.*

† This category is a combination of other places inside the school building, school parking lot, other places on school grounds, and school bus or bus stop.

‡ These variables were found to have significant differences between the two samples. They are dropped from further analysis.

[18] Most studies use peer nomination or peer observed network measures to determine where in the social hierarchy a student might be; as a result, these studies tend to involve fewer students than the SCS. While the SCS does not collect peer nomination or network data about specific students in the school, it does ask generally about whether or not the respondent has a relationship with at least one other student at their school.

For the most part, the experimental and control samples are not significantly different. All data analyses were conducted on weighted data, using SPSS Complex Samples module to account for accurate estimation of standard errors and stratified sampling (clustering) effects due to the sampling design as well as weighting effects. Two variables produced significantly different means between the two samples: whether the respondent had avoided any classes for fear of harm, and whether the respondent agrees that if a rule is broken, students know which corresponding punishment will follow. While these two variables are presented in the table below, they are dropped from further analyses, since differences in predictive power cannot be isolated from differences in the samples themselves.

Table 7: Social-ecological Variable Comparisons Using t-test for Equality of Means

	Control Sample		Experimental Sample			
	Mean	(SE)	Mean	(SE)	*t-test*	
Internalizing Behaviors						
Did you stay away from any of the following places:						
Shortest route to school	2.0	(0.1)	2.0	(0.2)	1.6	
The entrance into the school	2.0	(0.1)	2.0	(0.1)	0.3	
Any hallways or stairs in school	2.0	(0.1)	2.0	(0.1)	-0.7	
Cafeteria	2.0	(0.1)	2.0	(0.1)	-0.3	
Any school restrooms	2.0	(0.1)	2.0	(0.1)	0.9	
Other places inside and outside the school building	0.1	(0.1)	0.1	(0.1)	7.5	
Avoided activities at school	2.0	(0.1)	2.0	(0.1)	0.9	
Avoided classes	2.0	(0.1)	2.0	(0.1)	-2.0	*
Stay home from school because of fear	2.0	(0.1)	2.0	(0.1)	-0.5	
Self-related Cognition						
Afraid of attack or harm in school building	1.2	(0.1)	1.2	(0.1)	1.3	
Afraid of attack or harm in school building	1.2	(0.1)	1.2	(0.1)	1.3	
Afraid of attack or harm on school bus	1.1	(0.1)	1.1	(0.1)	-0.6	
How often afraid attack or harm at school	1.2	(0.1)	1.2	(0.1)	1.2	
Academic Performance	1.8	(0.1)	1.8	(0.1)	0.1	
Grade Level	1.5	(0.1)	1.5	(0.1)	0.8	
Peer Status						
There is a student at school who:						
Really cares about you	1.6	(0.1)	1.6	(0.1)	-0.1	
Listens to you when you have something to say	1.6	(0.1)	1.6	(0.1)	0.4	
Believes that you will be a success	1.6	(0.1)	1.6	(0.1)	1.0	
School Climate						
Agrees that the school rules are fair	1.8	(0.1)	1.8	(0.1)	-1.5	
Agrees that the punishment for breaking school rules is the same no matter who you are	1.8	(0.1)	1.8	(0.1)	-0.8	
Agrees that the school rules are strictly enforced	1.9	(0.1)	1.9	(0.1)	-0.6	
Agrees that if a school rule is broken, students know what kind of punishment will follow	1.8	(0.1)	1.8	(0.1)	-2.1	*
Agrees that teachers treat students with respect	1.8	(0.1)	1.8	(0.1)	0.4	
Macro-level Proxies						
Sex	1.5	(0.1)	1.5	(0.1)	0.8	
Race	1.9	(0.1)	1.9	(0.1)	0.6	

* $p < 0.05$ ** $p < 0.01$

Significantly different variables will be dropped from further analyses.

Notes:

Internalizing behavior variables in this table are coded: 1 = yes; 2 = no

Self-related Cognition variables are coded: 1 = never; 2 = almost never; 3 = sometimes; 4 = most of the time

Academic Performance is coded: 1 = A's; 2 = B's; 3 = C's; 4 = D's; 5 = F's

Grade level is coded: 1 = 6^{th}; 2 = 7^{th}; 3 = 8^{th}; 4 = 9^{th};5 = 10^{th}; 6 = 11^{th}; 7 = 12^{th}

Peer Status variables are coded: 1 = strongly agree; 2 = agree; 3 = disagree; 4 = strongly disagree

School Climate variables are coded: 1 = strongly agree; 2 = agree; 3 = disagree; 4 = strongly disagree

Sex is coded: 1 = male; 2 = female

Race is coded: 1=white; 2 = black; 3 = Hispanic; 4 = Asian; 5 = other or more than one

Note: Overall unweighted sample size, without missing data, is as follows: Control sample = 2,317; Experimental sample = 2,386. Weighted values represent 24,000,000 students nationally.

III. Comparing Questions: Demographics and School Characteristics

Looking at demographic variables, school characteristics, and the combination of the two, the two questions result in similar trends. Some variables are significant predictors of bullying for both questions. For example, in both the control and experimental wording of the bullying question, females were less likely than males (reference) to report bullying victimization, even when controlling for school characteristics. Likewise, Hispanics are less likely than white students (reference) to report bullying victimization for both versions of the bullying question, even when controlling for school characteristics.

However, it would seem that the control version of the bullying question is more sensitive to economic minorities: those students with an annual household income of $24,000 are less likely than those students in wealthier households ($50,000 or more annual household income is reference category) to report bullying victimization, but only using the control version of the question. At the same time, this version of the question is predictive for more diverse schools and poorer schools. Holding other school characteristics constant, students at schools with 20 to less than 50 percent minority students are less likely than those with higher proportions of students (50 percent or more is reference group) to report bullying victimization. Pulling in demographic characteristics causes this relationship to become non-significant, suggesting that it is the actual race of the student, and not the diversity of the school, that is predictive of bullying. Finally, students at schools with less than 20 percent free and reduced price lunch recipients (FRPL) are more likely than those with 50 percent or

more recipients (reference category) to report being bullied, even when demographic characteristics are controlled. This suggests that more than just income, but overall neighborhood or at the very least school wealth, is predictive of bullying.

Table 8: Control Construct Bullying Victimization Predictive Variables Comparisons Using Logistic Regression

	Model 1: Demographics		Model 2: School Characteristics		Model 3: Demographic and School	
	β	SE	β	SE	β	SE
Constant	1.4	(0.5)	1.8	(0.5)	1.8	(0.9)
Sex						
Male	--	--			--	--
Female	-0.2*	(0.1)			-0.2*	(0.1)
Race						
White	--	--			--	--
Black	0.1	(0.2)			0.1	(0.2)
Hispanic	-0.4*	(0.2)			-0.4	(0.2)
Asian	-0.4	(0.3)			-0.4	(0.3)
Other or more than one	0.2	(0.3)			0.2	(0.3)
Income						
$24,999 per year or less	0.4*	(0.2)			0.4*	(0.2)
$25,000 to $49,999 per year	0.3	(0.2)			0.2	(0.2)
$50,000 or more	--	--			--	--
Region						
South			--	--	--	--
North			-0.2	(0.2)	-0.1	(0.2)
Midwest			0.3	(0.2)	0.3	(0.2)
West			0.1	(0.2)	0.1	(0.2)
School type						
Non-public			--	--	--	--
Public			0.5	(0.3)	0.5	(0.3)
Locale						
Urban			--	--	--	--
Suburban			0.1	(0.2)	0.1	(0.2)
Town			-0.1	(0.2)	-0.1	(0.2)
Rural			-0.1	(0.2)	-0.1	(0.2)
Size						
599 or fewer			--	--	--	--
600 to 1,499 students			0.1	(0.1)	0.1	(0.1)
1,500 students or more			-0.3	(0.2)	-0.2	(0.2)
FTE						
Less than 16 students			0.1	(0.2)	0.1	(0.2)
16 students or more			--	--	--	--
Percent Minority						
Less than 20 percent			-0.1	(0.2)	-0.1	(0.2)
20 to less than 50 percent			0.4*	(0.2)	0.3	(0.2)
50 percent or more			--	--	--	--
FRPL						
Less than 20 percent			-0.5*	(0.3)	-0.5*	(0.3)
20 to less than 50 percent			-0.1	(0.2)	-0.1	(0.2)
50 percent or more			--	--	--	--
Negelkerke Pseudo R-squared	0.017		0.023		0.035	
Number of observations	6,120,000		5,623,000		5,623,000	

*p<0.05 *Standard errors are reported in parentheses*
Categories marked with "--" are the contrast categories.

Looking at the experimental wording of the bullying question, students who self-identify as black are more likely than white students (reference category) to report bullying victimization, even when holding school characteristics constant. Likewise, controlling for demographic differences, students attending public schools are less likely than those at private schools (reference category) to report being bullied, while students attending schools in towns are less likely than those in urban areas (reference category) to report bullying victimization. Finally, those students in very large schools are more likely than those in the smallest schools (599 or fewer enrolled students is the reference category) to report bullying victimization, even when controlling for demographic differences.

Table 9: Experimental Construct Bullying Victimization Predictive Variables Comparisons Using Logistic Regression

	Model 1: Demographics		Model 2: School Characteristics		Model 3: Demographic and School	
	β	SE	β	SE	β	SE
Constant	4.6	0.8	2.1	0.9	4.1	1.4
Sex						
Male	--	--			--	--
Female	-0.5*	(0.2)			-0.6*	(0.2)
Race						
White	--	--			--	--
Black	-0.9*	(0.3)			-0.8*	(0.4)
Hispanic	-0.9*	(0.2)			-0.7*	(0.3)
Asian	-1.0	(0.5)			-0.6	(0.6)
Other or more than one	0.1	(0.4)			0.2	(0.4)
Income						
$24,999 per year or less	0.2	(0.3)			0.2	(0.3)
$25,000 to $49,999 per year	0.3	(0.2)			0.3	(0.2)
$50,000 or more	--	--			--	--
Region						
South			--	--	--	--
North			-0.1	(0.3)	-0.1	(0.3)
Midwest			-0.1	(0.2)	-0.1	(0.2)
West			-0.3	(0.3)	-0.3	(0.3)
School type						
Non-public			--	--	--	--
Public			1.8*	(0.7)	1.8*	(0.7)
Locale						
Urban			--	--	--	--
Suburban			0.4	(0.3)	0.4	(0.3)
Town			0.7*	(0.3)	0.7*	(0.4)
Rural			0.1	(0.3)	0.1	(0.3)
Size						
599 or fewer			--	--	--	--
600 to 1,499 students			0.1	(0.2)	0.1	(0.3)
1,500 students or more			-0.9*	(0.3)	-0.9*	(0.3)
FTE						
Less than 16 students			0.2	(0.2)	0.2	(0.2)
16 students or more			--	--	--	--
Percent Minority						
Less than 20 percent			0.4	(0.3)	0.2	(0.3)
20 to less than 50 percent			0.2	(0.3)	-0.1	(0.3)
50 percent or more			--	--	--	--
FRPL						
Less than 20 percent			-0.2	(0.3)	-0.2	(0.3)
20 to less than 50 percent			0.2	(0.2)	0.2	(0.2)
50 percent or more			--	--	--	--
Negelkerke Pseudo R-squared	0.04		0.07		0.10	
Number of observations	6,247,000		5,768,000		5,768,000	

*p<0.05

Note: Standard errors are reported in parentheses
Categories marked with "--" are the contrast categories.

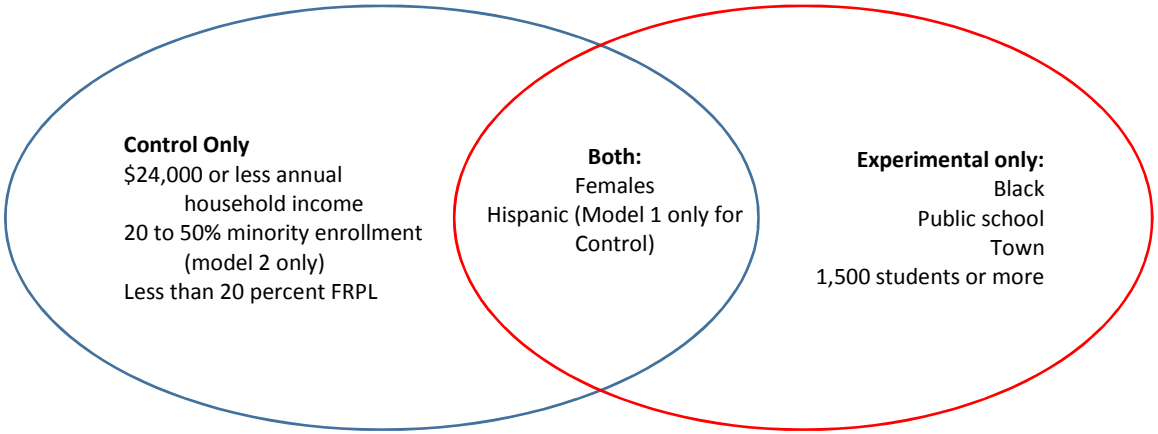

Figure 2: Significant Predictors of Bullying by Question Version

But, beyond which variables are predicted, the comparison of the two constructions hinges on the better predictive power. Looking at the Negelkerke Pseudo R-square for both models, it appears that the experimental group had higher predictive qualities than the control group. Including all variables of demographics and school characteristics predicts about 3.5 percent of the variance in the control group, and about 10 percent of the variance in the experimental group. Neither of these values is considered robust; we must move on to additional measures to see if one of the bullying constructs is more strongly predicted.

IV. Comparing Questions: Social-Ecological Models

A. Student Characteristics

Using the variables identified by the academic literature as predictive of bullying victimization, slight differences in the two groups begin to emerge.[19] For the control model, four variables of internalizing behavior significantly positively predict bullying (including avoiding the cafeteria, avoiding other places inside and outside of the school building, staying home from school for fear of victimization, and not taking the shortest route out of fear). For the experimental group, two internalizing behavior variables are also significantly positively predictive of bullying victimization (including avoiding the cafeteria and other places inside and outside the school building). Notice that two of these variables are also predictive for the control group, too (avoiding other places inside and outside the school building as well as avoiding the cafeteria).

For self-related cognition, being afraid at school often is significantly negatively predictive of the control and experimental version of the bullying question. This relationship is counterintuitive, and it is unclear why it exists. Perhaps students who are afraid at school are more cautious with peer interactions or overall have fewer peer interactions in general than those students who are not afraid at school. Academic achievement (measured by self-reported grades) is positively predictive of bullying only

[19] Note that while some of these characteristics might be the *result* of bullying, recent work on the bully/victim cycle suggests that internalizing behaviors may produce additional bullying victimization. See Cook et al. 2010 for more on this.

for the control group and only for those respondents reporting grades of mostly Cs or below. For the control question, compared to those students who report mostly As on report cards (reference group), students reporting mostly Cs or below are more likely to report being bullied. Both the control and the experimental versions of the bullying question significantly positively predict bullying victimization based on grade-level – especially grades six, seventh, and eighth. Compared to twelfth grade respondents (reference group), students in grades six, seventh, and eighth are more likely to report bullying victimization on both the control and experimental constructions. For the control group, being in tenth grade is also positively predictive of bullying victimization, while for the experimental group, being in ninth grade is also positively predictive of bullying victimization.

B. Microsystem Measures

Looking at peer status questions where respondents indicated whether or not there is at least one peer at their school with whom they have a connection, none of the indicators of peer status are significantly predictive for the control or experimental groups, regardless of if the variables are the only ones in the model or if they are used in combination with other social-ecologically nested variables.

C. Mesosystem Measures

Several variables measuring school climate are predictive of bullying victimization. The constructs on bullying are significantly and positively predicted in schools where

respondents agree that the punishment for breaking the rules is the same no matter who you are. Students who agree that this statement is true of their school reported higher rates of bullying victimization than students who did not agree that this statement is true. For the control question, students who agree that teachers at their school treat students with respect report significantly less victimization than those who do not agree. At the same time, those students in the experimental group who reported that the rules at their school are fair were significantly less likely than those who do not agree that the rules are fair to report bullying victimization. In sum, when students think that the rules are fair, they are less likely to report bullying victimization, but when the students agree that the rules are evenly applied, they are more likely to report bullying victimization. This may suggest that it is the labeling of bullying (through the application of corrective action) rather than the imposition of perceived fair rules that is the important school climate measure.

D. Macro system Proxies

Looking at the macro-system proxy variables of race and sex, two groups were significantly more likely to be bullied using both constructions of the bullying question. In both versions, females were less likely than males to report bullying victimization. Likewise, Hispanic students were less likely than white students to report bullying victimization. In the experimental group, black and Asian students were also significantly more likely than white students to report bullying victimization.

E. Combined Model

The combined predictive model is very similar to the individual models described above because it includes all of the various measures in the social-ecological framework, In addition to the variables above, for the control group, students who report that the rules are enforced are also significantly less likely than those who do not report this to report bullying victimization. At the same time, once all of the social-ecological variables are included, two previously predictive variables are no longer predictive of the control construct (i.e. not taking the shortest route out of fear and that punishments are the same for all students regardless of who they are). The experimental group, including all of the social-ecological variables in one model, adds two more predictive variables (students who report staying home from school for fear of victimization are more likely than those who do not report this to say that they have been a victim of bullying, while those who report that teachers are respectful of students are significantly less likely than those who do not report this to be victims of bullying). Only Asian students being less likely than white students to be bullied drops out of the model when the entire social-ecological framework is used on the experimental construct.

Table 10. Control Construct Bullying Victimization Social-ecological Model Comparisons Using Logistic Regression

	Model 1: Ecological risk/protective		**Model 2: Microsystems**		**Model 3: Mesosystems**		**Model 4: Macrosystems**		**Model 5: Social-Ecological Model**	
	β	SE	β	SE	β	SE	β	SE	β	SE
Constant	-9.6	(2.2)	1.3	(0.1)	1.7	(0.1)	1.7	(0.5)	-9.3	(2.3)
Student Characteristics										
Internalizing Behavior										
Shortest route	1.0*	(0.5)							1.0	(0.5)
Entrance to the school	0.8	(0.9)							1.2	(0.9)
Hallways or stairs in school	0.2	(0.5)							0.2	(0.5)
Cafeteria	2.6*	(0.9)							2.4*	(0.9)
Restrooms	0.2	(0.6)							0.2	(0.5)
Other places inside and outside school building	1.0*	(0.4)							0.8*	(0.4)
Avoided activities	0.5	(0.6)							0.6	(0.6)
Stayed home from school	2.3*	(0.6)							2.4*	(0.5)
Self-related cognition										
How often afraid at school	-1.2*	(0.2)							-1.2*	(0.2)
How often afraid on the way to and from school	0.5	(0.3)							0.5	(0.3)
How often afraid otherwise	-0.2	(0.2)							-0.2	(0.2)
Academic performance										
Mostly As	--	--							--	--
Mostly Bs	0.1	(0.1)							0.1	(0.1)
Mostly Cs or below	0.5*	(0.2)							0.5*	(0.2)
Grade level										

Sixth grade	0.9*	(0.3)							1.1*	(0.3)
Seventh grade	0.6*	(0.2)							0.7*	(0.2)
Eighth grade	0.5*	(0.2)							0.6*	(0.2)
Ninth grade	0.3	(0.2)							0.3	(0.2)
Tenth grade	0.4*	(0.2)							0.4*	(0.2)
Eleventh grade	0.1	(0.3)							0.1	(0.3)
Twelfth grade	--	--							--	--
Microsystem measures										
Peer Status										
Really cares about you			0.2	(0.3)					0.2	(0.3)
Listens when you have something to say			0.2	(0.3)					0.5	(0.3)
Believes you will be a success			-0.3	(0.2)					-0.2	(0.2)
Mesosystem measures										
School Climate										
School rules are fair					-0.3	(0.2)			-0.3	(0.2)
Punishments are the same					0.4*	(0.2)			0.3	(0.2)
Rules are enforced					-0.2	(0.2)			-0.4*	(0.2)
Teachers are respectful					-0.5*	(0.2)			-0.5*	(0.2)
Macrosystem Proxies										
Sex										
Male							--	--	--	
Female							-0.2*	(0.1)	-0.3*	(0.1)
Race										
White							--	--	--	--
Black							0.2	(0.2)	0.1	(0.2)
Hispanic							-0.3*	(0.1)	-0.4*	(0.2)
Asian							-0.4	(0.3)	-0.5	(0.4)
Other or more than one race							0.2	(0.3)	0.2	(0.3)

Negelkerke Pseudo R-squared	0.16	0.01	0.02	0.01	0.19
Number of observations	6,037,984	5,976,155	6,016,747	6,120,028	5,924,558

*p<0.05
Standard errors are reported in parentheses
Categories marked with "--" are the contrast categories.

Table 11: Experimental Construct Bullying Victimization Social-ecological Model Comparisons Using Logistic Regression

	Model 1: Ecological risk/protective		**Model 2: Microsystems**		**Model 3: Mesosystems**		**Model 4: Macrosystems**		**Model 5: Social-Ecological Model**	
	β	SE	β	SE	β	SE	β	SE	β	SE
Constant	-8.1	(2.6)	2.4	(0.1)	2.8	(0.2)	4.8	(0.8)	-6.4	(2.7)
Ecological risk/protective measures										
Internalizing Behavior										
Shortest route	-0.8	(0.6)							-0.7	(0.7)
Entrance to the school	0.6	(1.1)							0.6	(1.1)
Hallways or stairs in school	0.8	(0.4)							0.7	(0.5)
Cafeteria	2.1*	(0.7)							2.2*	(0.7)
Restrooms	-1.2	(0.7)							-1.2	(0.7)
Other places inside and outside school building	1.9*	(0.4)							1.7*	(0.4)
Avoided activities	0.5	(0.7)							0.6	(0.6)
Stayed home from school	1.5	(0.9)							1.7*	(0.58)
Self-related cognition										
How often afraid at school	-1.2*	(0.3)							-1.2*	(0.3)
How often afraid on the way to and from school	-0.3	(0.3)							-0.3	(0.3)
How often afraid otherwise	0.3	(0.3)							0.3	(0.3)
Academic performance										
Mostly As	--	--							--	--
Mostly Bs	0.2	(0.2)							0.4	(0.2)
Mostly Cs or below	0.1	(0.3)							0.2	(0.3)
Grade level										
Sixth grade	1.8*	(0.4)							1.9*	(0.4)
Seventh grade	1.3*	(0.4)							1.4*	(0.4)

Eighth grade	1.3*	(0.4)							1.4*	(0.4)
Ninth grade	1.1*	(0.4)							1.1*	(0.5)
Tenth grade	0.4	(0.5)							0.5	(0.5)
Eleventh grade	0.6	(0.5)							0.6	(0.5)
Twelfth grade	--	--							--	--
Microsystem measures										
Peer Status										
Really cares about you			0.2	(0.3)					0.3	(0.3)
Listens when you have something to say			-0.1	(0.4)					-0.2	(0.4)
Believes you will be a success			0.1	(0.3)					0.2	(0.3)
Mesosystem measures										
School Climate										
School rules are fair					-0.6*	(0.3)			-0.7*	(0.3)
Punishments are the same					0.5*	(0.2)			0.6*	(0.2)
Rules are enforced					0.1	(0.2)			-0.1	(0.2)
Teachers are respectful					-0.4	(0.2)			-0.5*	(0.2)
Macrosystem Proxies										
Sex										
Male							--	--	--	--
Female							-0.5*	(0.2)	-0.4*	(0.2)
Race										
White							--	--	--	--
Black							-0.8*	(0.3)	-1.0*	(0.4)
Hispanic							-0.8*	(0.2)	-0.9*	(0.3)
Asian							-1.0*	(0.5)	-0.7	(0.5)
Other or more than one race							0.1	(0.4)	0.2	(0.4)
Negelkerke Pseudo R-squared	0.19		0.01		0.01		0.03		0.24	
Number of observations	6,222,890		6,182,031		6,186,060		6,246,890		6,130,774	

**p<0.05*

Standard errors are reported in parentheses

Categories marked with "--" are the contrast categories.

V. Comparing Models

One way to compare the models is to examine the Nagelkerke Pseudo R-Square. This test statistic is used as a measure of goodness of fit of the data to the model, and is calculated by dividing another pseudo R-Square (the Cox and Snell) by the maximum possible value, ranging in value from 0 to 1. It is a measure of the "proportion of explained 'variation'" for logistic regressions (Nagelkerke 1991: 692). A general "rule of thumb" for a good fit of the data is a Pseudo R-Square of 0.2 to 0.4. Given this, only the final model – with all factors of the social-ecological model for the experimental definition – meets the threshold for a 'good fit,' and even then, is only just at that threshold.

Even opening the model to a combination of the social-ecological variables and the student and school characteristics variables described earlier, the predictive power is very similar for both constructions of the bullying questions.

Table 12: Observations and Logistic Regression Pseudo R-Square Values for Control and Experimental Bullying Constructs by Social-Ecological Model Levels and Overall

	Control		Experimental	
	Number of observations	Pseudo R-Square	Number of observations	Pseudo R-Square
Model 1: Ecological risk/protective measures	6,038,000	0.16	6,223,000	0.19
Model 2: Microsystem measures	5,976,000	0.01	6,182,000	0.01
Model 3: Mesosystem measures	6,017,000	0.02	6,186,000	0.01
Model 4: Macro system Proxies	6,120,000	0.01	6,247,000	0.03
Model 5: Social-Ecological Model	5,925,000	0.19	6,131,000	0.24

Note: Overall unweighted sample size, without missing data, is as follows: Control sample = 2,317; Experimental sample = 2,386. Weighted values represent 24,000,000 students nationally. All results generated on weighted data.

Table 13: Control and Experimental Constructs of Bullying Victimization: Student Characteristics, School Characteristics, and Social-ecological Model Comparisons Using Logistic Regression

	Control Sample		Experimental Sample	
	B	SE	β	SE
Constant	-10.0	2.58	-8.2	3.0
Student Characteristics				
Sex				
Male				
Female	-0.247	1.3	-0.51*	0.201
Race				
White				
Black	-0.02	0.23	-0.94*	0.464
Hispanic	-0.34	0.212	-0.79*	0.304
Asian	-0.46	0.36	-0.18	0.54
Other or more than one	0.166	0.306	0.164	0.453
Income				
$24,999 per year or less	0.325	0.174	0.045	0.312
$25,000 to $49,999 per year	0.216	0.165	0.271	0.254
$50,000 or more				
School Characteristics				
Region				
South				
North	-0.08	0.221	0.015	0.359
Midwest	0.262	0.187	0.1	0.241
West	0.079	0.180	0.036	0.309
School type				
Non-public				
Public	0.216	0.309	1.774*	0.864
Locale				
Urban				
Suburban	0.127	0.169	0.423	0.351
Town	-0.088	0.258	0.926*	0.353
Rural	-0.057	0.2147	0.461	0.392
Size				
599 or fewer				
600 to 1,499 students	0.30	0.155	0.057	0.287
1,500 students or more	0.103	0.223	-0.788	0.470
FTE				
Less than 16 students				
16 students or more	0.119	0.155	0.443*	0.213
Percent Minority				
Less than 20 percent	0.104	0.236	0.034	0.325
20 to less than 50 percent	0.381*	0.175	-0.303	0.308
50 percent or more				
FRPL				
Less than 20 percent	-0.443	0.250	0.228	0.320
20 to less than 50 percent	0.062	0.170	0.409	0.246
50 percent or more				
Ecological risk/protective measures				
Internalizing Behavior				
Shortest route	1.320*	0.527	-0.512	0.694
Entrance to the school	1.226	0.876	0.595	1.271
Hallways or stairs in school	0.307	0.543	0.764	0.563

Cafeteria	2.166*	0.849	2.56*	0.882
Restrooms	0.092	0.548	-1.07	0.754
Other places inside and outside school building	0.774	0.421	1.541*	0.387
Avoided activities	0.786	0.596	0.780	0.654
Stayed home from school	2.267	0.577	1.833*	0.838
Self-related cognition				
How often afraid at school	-1.183*	0.194	-1.346*	0.276
How often afraid on the way to and from school	0.390*	0.283	-0.225	0.323
How often afraid otherwise	-0.187	0.23	0.342	0.285
Academic performance				
Mostly As				
Mostly Bs	0.033	0.146	0.393	0.241
Mostly Cs or below	0.382*	0.194	0.109	0.319
Grade level				
Sixth grade	0.931*	0.279	1.594*	0.469
Seventh grade	0.677*	0.222	1.063*	0.478
Eighth grade	0.641*	0.238	1.096*	0.445
Ninth grade	0.315	0.221	1.011*	0.450
Tenth grade	0.445*	0.216	0.469	0.498
Eleventh grade	0.009	0.258	0.666	0.502
Twelfth grade				
Microsystem measures				
Peer Status				
Really cares about you	0.293	0.277	0.285	0.358
Listens when you have something to say	0.449	0.279	-0.121	0.429
Believes you will be a success	-0.195	0.236	0.241	0.319
Mesosystem measures				
School Climate				
School rules are fair	-0.203	0.213	-0.632	0.350
Punishments are the same	0.303	0.193	0.619*	0.265
Rules are enforced	-0.397*	0.185	-0.042	0.239
Teachers are respectful	-0.406*	0.199	-0.595*	0.232
Negelkerke Pseudo R-squared	0.209		0.294	
Number of observations	5,467,000		5,669,000	

Note: Overall unweighted sample size, without missing data, is as follows: Control sample = 2,317; Experimental sample = 2,386. Weighted values represent 24,000,000 students nationally. All results generated on weighted data.

If one or the other construction was consistently producing significant, meaningful predictive models, we could assume that this construction was accurately capturing a social phenomenon common to many students, and labeled as "bullying." Given the disappointing performance of both the control and experimental constructs of bullying – even when all aspects of situational variables and all aspects of the social-ecological model are included – it is generally assumed that both bullying constructs are not performing as a good measure of the phenomenon of peer victimization based on previous academic research. Why, then, engage in such a project of defining these behaviors? The final chapter of this project explores a reason for the bullying redefinition work beyond measurement error and statistics: the role of the production of official statistics in defining, describing, and enumerating social problems.

CHAPTER 6: BULLYING AND THE PRODUCTION OF OFFICIAL STATISTICS

I. Revisiting the Split-Ballot

This research has described the complicated but necessary project of operationalizing the social phenomenon of bullying. There are various predictors of bullying victimization found in nested social systems and framed by the social-ecological lens, and these predictors are an important part of youths' social experiences. Many scholars in many disciplines have attempted to develop operationalizations that accurately reflect the life world of individual students' experiences, while still being inclusive enough to recognize patterns of behavior across groups. In an effort to encourage comparability across research projects, the Centers for Disease Control and Prevention promulgated a uniform definition for bullying:

> Bullying is any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated. Bullying may inflict harm or distress on the targeted youth including physical, psychological, social, or educational harm. (Gladden et al. 2014: 7)

The National Center for Education Statistics responded by carefully constructing multiple survey questions using the uniform definition as a standard, and cognitively

tested the new constructions with young respondents to test for construct validity. Once the new measure was refined, it was embedded in a split-ballot survey experiment to better understand the differences in response patterns based on question wording.

Testing the performance of the variables relied on two discrete sets of variables: demographic and school characteristics, and those framed by the socio-ecological perspective. Demographic and school characteristic variables situate bullying victimization in a particular time and place, and allow for comparisons across commonly predictive group status, like race, sex, and student enrollment. The socio-ecological perspective was included in an attempt to highlight "the complex interplay between inter and intra-individual variables" situated within an "ecology that establishes and maintains bullying and victimization" (Swearer and Esplelage 2004: 1). Drawing on the framework established by Hong and Esplage (2012), and using groups of variables described by Cook et al. (2010:67), the two constructions on bullying were tested for predictability in internalizing behaviors, self-related cognition, academic performance, grade level, peer status, school climate, and macro-level proxies of sex and race. In this way, the focus of analysis could include the individual, but place that individual within the larger social context in which he was operating.

The results of the split-ballot experiment could be construed as disappointing. Looking at the data from demographic and school characteristics, the results are scattershot, with only the variable respondent sex significantly predicting bullying

victimization across all models for both the control and experimental constructions. Less influential variables include household income, race, school enrollment, and geographic locality, but only for one or the other constructions. Neither construction was highly responsive to school characteristics and demographic variables. Using the social-ecological model, the results were even less impressive, with the full model bumping the Pseudo R-squared to 0.19 for the control group and 0.24 for the experimental group. Combing the two sets (demographic and school characteristics and the social-ecological variables) does little to increase the predictive power of the constructs, nudging the Pseudo R-squared values to 0.21 for the control sample and 0.29 for the experimental sample.

Still, the project of revisiting the construction of questions about bullying is an important one, not just for refining the measures to reflect lived experience, but also as a social process integral to the production of official statistics and to a collective understanding of social facts.

II. Social Drama and the Case for Measurement

Thinking about the redefinition of bullying, and the subsequent project of operationalizing that redefinition, brings the whole process of the production of official statistics into focus. But the question remains, then, why engage in such a process? In the case of the National Center for Education Statistics, the driving goal of the project may be to push toward better learning environments for students. At the same time,

the production of these statistics themselves move the conversation around bullying from individual catalytic events to a wider conversation of the social experience; that is, by collecting wide-scale data on bullying victimization, policymakers and others can shift their focus from a few highly publicized, horrific stories about bullying to the larger patterns and trends of the behavior, for a wider context. In doing so, these official statistics can reveal meaningful inequalities and can foment social movements for disadvantaged groups.

In fact, the rise of bullying as a social problem echoes what Stanley Cohen calls "folk devils and moral panics" (2002), situations whereby a single event becomes a catalyst for larger conversation around an issue. In the case of bullying, the catalytic event might be the 1999 school shootings at Columbine High School, where two high school boys who had been victims of bullying killed 13 people (Bazelon: 2014). A major result of this event was what Denham called a "symbolic crisis," the "short-term, media-driven periods of alarm stemming from dramatic events steeped in moral failure, permissive behavior, or isolated criminal actions" (2014: 366). This focus on the individual is echoed in Clarke's examination of the portrayal of bullies in media as "related to problems in the pathological individual" (2017a: 7), a sort of 'bad apples' characterization of bullying, but one that nevertheless feels widespread and highly dangerous.

Once a social phenomenon is characterized as dangerous and widespread, and especially if it involves children, it can become in public discourse what sociologist Amy Best describes as a "set of exaggerated claims and distortions of more complex realities," characterized by an outsized amount of attention to the problem (Best 2008: 667). This leads to increased vigilance about identifying similar instances, moving the example from a single event to one framed in fear and widespread occurrence (Cohen 2002: 81-85) and promoted by and beneficial to social control agencies that are "called on to regulate…lives in order to protect" (Altheide 2013: 183). There is often a rallying cry for more protections, legislation, criminalization, and other protective measures.

The conversation that flows from this process of the problematization of bullying is laden with fear and feels urgent in its consequence. In his analysis of parenting magazines, for example, Clarke found that bullying is framed as "an endemic, serious, and growing problem" that is "frequently represented as newly discovered but highly dangerous" behaviors and is "linked to the most fearsome of presumed bullying outcomes, such as suicide, murder, and…school shootings" (2017a: 4). Through this representation, these media outlets are highlighting that some social experiences, and particularly those of children, are high risk and dangerous (Clarke 2017b; Best 2008), and are assuming that they are wide-spread.

In reaction to, or in conjunction with, this public drama, the Department of Education and other decision makers are tasked with improving the institutions within

which the bullying is occurring. But first, the social phenomenon must be standardized and measured, a project clearly laid out in the split-ballot experiment. These quantifiable measures – standing in as proxies for qualitative experiences – are vital to understanding the wider social patterns at play (Ritzer 1983) and to move an institution closer toward its explicit goals. For example, the current educational climate's focus on standardized testing and accountability, while often maligned as being overly general, is ultimately a project aimed at improving education nationally (Ravitch 2016: 250; Baltodano 2012: 495). This is evident in both the No Child Left Behind Act and the Every Student Succeeds Act, though with varying degrees of success. [20] In the case of bullying, the push toward calculability and measurement is an attempt to minimize interference in academic learning, to carve out a "safe space" in which students can learn the standardized curriculum.

By measuring the phenomenon of bullying, the Department of Education (and others) is attempting to ground the public drama surrounding bullying, focused on catalytic events and a feeling of fear, into a wider social context. Using standardized measures, the project becomes a rational one, focused on "proceed[ing] toward a truer understanding of the real world" as a means of "a greater fulfillment of human potential" (Wallerstein 1999: 137). Measurement becomes its own process of framing the problem, such that the "decision to measure and the decision what and how to

[20] For a thorough though non-academic review of the subtle differences between NCLB and ESSA, see Tooley 2015.

measure are really the most important ones" in understanding social phenomenon (Sidorkin 2016: 325). Sociologist Joel Best argues that statistical analysis in general – and the production of official statistics specifically – serves a public purpose, to give "an accurate, true description of society" (2001: 13), and that they play an "important role in campaigns to create – or defuse claims about – new social problems," first as descriptions of the problem's size, and then as a way of legitimizing the new social problem as actually problematic (17). Thus, the production of official statistics becomes a cornerstone in public discourse around social issues (Pfeffermann 2015).

Beyond official statistics as a legitimizing force, the results of these careful investigations can reveal meaningful inequalities. In the case of bullying, the likelihood of victimization has been tied to socioeconomic status (Tippett and Wolke 2014), race (Fisher et al. 2015), and disability status (Blake et al. 2016). One of the most recent, and impactful, focuses of bullying victimization studies is the prevalence of bullying victimization on LGBT youths. Numerous recent studies have demonstrated that bullying victimization of LGBT youths is more widespread than their straight and cis peers (Zaza et al. 2016; Earnshaw et al. 2016) and has a longer lasting and more severe impact on them than their straight peers (Espelage 2016; Parent and Bradstreet 2017). Since social problems occur in a marketplace of ideas, and must vie for attention and resources, LGBT anti-bullying advocates have used these data to construct a specific narrative around the LGBT bullying experience and have elevated incidences of victimization to the national stage to maintain their movement's momentum and

salience in public discourse (Best 2016; Jones 2017). One result has been the systematic dismantling of anti-gay curriculum laws; statutes that prohibit or restrict discussion of homosexuality in schools (Rosky 2017).

III. A Cautious Endorsement

All of this is to say that the measurement and the production of official statistics is an important part of framing social problems, in widening social discourse, and in informing advocacy and policy activities. However, measuring social problems must be done cautiously and within the context of rigorous methodological checks-and-balances. Data analytics can be rife with pitfalls, like methodological individualism, reification of results, and distortion of the size and impact of the problem. These measures need to be revisited and refined on a regular basis to keep up with changes in terminology and definition, and to reflect new knowledge on the subject. This process of refining measures must happen within a community of scholars, but be reflective of the wider social experience.

One major issue with the promulgation of official statistics is the tendency for these statistics to be subject to methodological individualism; a regression to the individual as the cause for differences in phenomenon. In this way, while the pattern may be widespread, the decision to engage in bullying rests with the individual and, as such, must be handled at the individual-level. Again, revisiting Clarke's work on bullying representations in parenting publications, he finds that the responsibility for identifying

victimization and preventing bullying behavior is pushed to parents, and especially to mothers, so much so that they are "to act endlessly as psychotherapists to their children" (2017a: 8) to minimize the risk that their child will bully or be bullied. This whole narrative "reinforces the responsibility of parents as individuals" to be "continuously fearful and on the lookout for dangerous bully/victimhood in their children," rather than "interrogating larger social forces" that may be underscoring bullying as a phenomenon (8-9). This sentiment is echoed by Best (2008), who argues that the increased attention to and fear of youths' behaviors, coupled with the decreased funding of structures to support them, places increasing pressure on parents to be the sole preparers of children for the wider public sphere (2008: 666). The result is a marriage between risk averse thinking (that children and their behaviors are dangerous and that there are potential hazards everywhere) and neoliberalism. The solutions are "commodified intervention programs" (Clarke 2017b: 12) focused on the individual and not community or society-centered characteristics as means to reduce bullying victimization.

On the other hand, official statistics are also often reified – they take on a social life of their own, separate from the context in which the data are collected. Measurement relies on similarities and ignoring details for the sake of a wider lens (Sidorkin 2016: 324). And, the resultant data are reflective of the methodological choices that went into producing it (Best 2001a: 10). However, because of the size of these data collection efforts, which often cost hundreds of thousands of dollars and take

years to complete, and the source of these statistics (the federal government), there is a tendency to treat official statistics as "straightforward facts that cannot be questioned" (Best 2001b: 22) even though these results are always as open to error and interpretation as any other meaningful piece of data. In this way, once an official statistic is released to the public, it can seem beyond reproach, such that "it barely matters if critics challenge a number and expose it as erroneous…once a number is in [public] circulation, it can live on, regardless of how thoroughly it may have been discredited" (Best 2001a: 11).

At the same time, beyond pushing the cause to the individual, or the statistic having a 'life of its own,' claims generated from the data can be distorted or outsized based on the group in question. In fact, the very exercise of generating statistics creates 'groups' that may or may not be reflective of the ways in which people actually come together. In the case of bullying, the attention is on youths as a homogenous group, distinct from others and bound by their created category (Best 2008: 666). It may be that other characteristics – and not just youth – are a driving force of bullying victimization, but by focusing attention on this one wide age range (grades 6 through 12, or roughly age 11 through 18), the pattern of bullying seems large and linked to age. At the same time, the impact of bullying may be outsized relative to the issue. For example, Benjamin Fisher surveyed students at 27 school districts (N = 66,511) six months after the school shootings in Newtown, CT at Sandy Hook Elementary School, where a single gunman killed 26 people, including 20 children and 6 adult staff. He

expected to find residual anxiety about school safety, but instead found that overall, there is little evidence that high impact cases like Sandy Hook have an outside impact on students' perceptions of school safety (2016: 8). So, even though policy in the wake of highly publicized events tends to be driven by a want to make schools safer and students feel safer, it should be noted that students do not seem to be internalizing fear based on these events in the same way as adults.

Additionally, students' perceptions of what constitutes a concept like bullying may shift over time. While there are reasonable methodological concerns about changing data collection strategies, especially for long-standing collections with normed data trends, operationalizations must be revisited to check for continued validity. This is particularly pressing for a concept like bullying, which is tied to public policy making, since, following the logic of esteemed social psychologist Donald T. Campbell and his 'law': "The more any quantitative social indicator is used for social decision-making, the more subject it will be to corruption pressures, and the more apt it will be to distort and corrupt the social processes it is intended to monitor" (1979: 85). Data points used for social policy and advocacy can get trapped in a loop of stakeholders 'gaming' the outcomes so that the results are favorable, but the context has not changed. For example, as bullying becomes more specifically defined, schools might begin to move students who should be counted as bullied into a non-bullied category so that their bullying prevalence rates go down. Only by revisiting the measurement, and being open

to new research and actual experiences, can these data points continue to serve as reflective of social processes.

Revisiting measurement of social phenomenon becomes particularly important in the wake of innovative methods or paradigm shifting findings. Consider the thinking of philosopher of science, Thomas Kuhn, who argues that revolutionary changes in thinking are "discoveries that cannot be accommodated within the concepts in use before they were made" (2014: 72). Most of the time, scientific knowledge is cumulative – it builds on itself slowly. But, with a revolutionary finding, "one cannot get from the old to the new simply by an addition to what was already known" (72). Revolutionary findings are "holistic" – they cannot be made "piecemeal, one step at a time," like the normal cumulative nature of knowledge (84). The publication of the CDC uniform definition of bullying, as well as the movement in the field of bullying-related definitional work since Olweus, reflects a revolution of sorts in the study of adolescent peer victimization. As such, this work has changed descriptions and taxonomies of victimization – they are an "adjustment not only of criteria relevant to categorization, but also of the way in which given objects and situations are distributed among preexisting categories" (85), having a rippling effect on language and conception themselves. What was once bullying is no longer; what was never officially problematized as bullying is now meeting the definition.

The work of renegotiating methodology after a revolutionary finding must take place within the context of a community of scholars with specialized knowledge. It is the network of expertise that "produces, reproduces, and disseminates expert statements or performances" rather than individual knowledge or skill (Eyal 2013: 875). Specialization within these expert networks increases the legitimacy of their work, though it must be cautioned that such legitimacy must be scrutinized[21]. An intersectional, rigorous process of knowledge production can live at the center of this network (Azocar and Marx Ferree 2016). Through this network of expertise, groups of scholars, policy makers, activists, and other stakeholders can generate sound data and continued commentary on social phenomenon.

IV. Bridging the Gap: The Sociologist as Translator

The question then becomes not simply how to measure bullying, but also how to bridge the gap between the public conversation around bullying and the work of methodological experts in measuring bullying. Social scientists generally, and the sociologist specifically, could step into this gap. In fact, since his 2004 presidential address to the American Sociological Association, Michael Burrawoy's conception of the "public" sociologist has reinvigorated the field, inspiring sociologists to once again ask themselves "sociology for who?"

[21] See Busso 2014 for an exploration of neoliberalism and risk society, and the role of the expert as negatively impacting self-confidence. See Hill Collins (2000) for an overview of expertise and the production of knowldege as a tool of oppression.

Sociology, as the "Queen of the Sciences," straddles the humanities and sciences. Some see this divide – between the 'theorists' and the 'methodologists' – as a point of fissure. To that I say that this colocation is in fact, sociologists' greatest asset to the study of and conversation around public issues. In writing social "stories" – as Ben Agger describes as the purpose of sociology – situated in methodological rigor and networks of expertise, sociologists are uniquely poised to speak to diverse audiences, including policy makers, advocates, technocrats, and the general public (Agger 2007). Whereas the think tank, devoid of theoretical background and rich conceptual scaffolding, may have as a stated goal of objectivity, legitimate authority, and expertise, there is also a suspicion that these groups are open to outside influences in exchange for power over policy (Shaw et al 2015). The sociologist, with the background in larger social theory, and the research acumen, is able to provide context and knowledge that atheoretical researchers lack.

Sociology, then, needs to be reflexively responsible to the public (or publics as the case may be), communicating to them while at the same time involving the public in the sociological research project (Burrawoy 2007: 28). The work of the sociologists is to "share independently derived information and analyses about the social world" to peers, publics, and to each other (Gattone 2006: 141). While I disagree that sociologists need to divide themselves into distinct typologies of sociological work (a la public,

professional, applied, etc.),[22] as Burrowoy suggests, I do see the need for sociologists to responsibly inform the larger discourse on public issues and to serve as a translator of sorts, taking complex social concepts and communicating them in such a way as to be accessible. In this way, the sociologist is democratizing the discourse, giving access to groups that would normally be shut out.

It is in that ease of navigating spheres of influence – academic, policy setting, and public – that the sociologist shines. Pulling on the great social thinkers who insist that individual action occurs in a context of time, place, and structure, while also relying on quantitative and qualitative methods and a network of experts, the sociologist is able to engage in debate about social problems regardless of the audience. And, in the case of bullying, having a sociologist at the table when methodological and measurement decisions were being debated lead to a more nuanced examination of this important social phenomenon. In reviewing the pertinent literature in the social sciences, education, and public health, the sociologist could place bullying in the context of an interdisciplinary project. In suggesting the split-ballot survey experiment, new conceptions of bullying could be tested in a rigorous way while being sensitive to long-standing trend data. And, in writing results in short, easy to read publications, like *Data Point Reports* for the Department of Education, the sociologist is able to communicate

[22] See Powell 2012 for a criticism of public sociology as divisive; see Hill Collins (2007) for a critique of taxonomies of sociology as creating a permanent underclass of scholars.

findings from complex ideas and methodologies in a way that is accessible and publically available.

Even though the new conceptualization of the bullying questions did not result in better quality data, ultimately, the split-ballot survey experiment is an important definitional piece to the larger study of bullying victimization. Revisiting long-standing data definitions is a necessary process to keeping the resultant data salient and accurate. Moreover, the production of official statistics plays an integral role in defining, understanding, and creating dialogue around social facts, like bullying.

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Melissa A. Cidade grew up in Beaver County, Pennsylvania. She earned her Bachelors of Arts in Sociology from Shippensburg University of Pennsylvania in 2003. In 2005, she earned her Masters of Arts in Sociology from The Catholic University of America, Washington, DC, where she had the privilege of interning at the U.S. Census Bureau's Center for Survey Methods Research (CSMR). She published her first book, *Bridging the Gap: The Opportunities and Challenges of International Priests Ministering in the United* States in 2014. In 2017, she earned her Doctorate in Sociology from George Mason University, Fairfax, VA. She has worked in applied survey research for more than 10 years. She is a senior survey methodologist at a large research consulting firm in the Washington, DC area.