

Negative Bystander Behavior in Bullying Dynamics: Assessing the Impact of Social Capital Deprivation and Anti-social Capital

Caroline B. R. Evans¹ · Paul R. Smokowski¹

© Springer Science+Business Media New York 2016

Abstract Bystanders witness bullying, but are not directly involved as a bully or victim; however, they often engage in negative bystander behavior. This study examines how social capital deprivation and anti-social capital are associated with the likelihood of engaging in negative bystander behavior in a sample ($N = 5752$) of racially/ethnically diverse rural youth. Data were collected using an online, youth self-report; the current study uses cross sectional data. Following multiple imputation, a binary logistic regression with robust standard errors was run. Results partially supported the hypothesis and indicated that social capital deprivation in the form of peer pressure and verbal victimization and anti-social capital in the form of delinquent friends, bullying perpetration, verbal perpetration, and physical perpetration were significantly associated with an increased likelihood of engaging in negative bystander behavior. Findings highlight the importance of establishing sources of positive social support for disenfranchised youth.

Keywords Bullying perpetration · Aggression · Bystander · Adolescence · Social capital deprivation

Introduction

The brutal murder of Catherine Susan (Kitty) Genovese, witnessed by 38 of her neighbors, sparked national discourse about the behavior of bystanders (i.e., individuals

who observe an emergency event but are not directly involved [1]). The bystander effect [2], supported by decades of research, is the social phenomenon that individuals who witness an event requiring intervention are less likely to intervene if there are other actual or perceived people present [3]. This phenomenon is best understood by the “diffusion of responsibility”: the presence of others during a situation requiring assistance decreases or “diffuses” the feeling of personal responsibility because individuals assume that someone else will provide support [4].

Indeed, individual behavior is influenced by the presence of others [5], especially in the context of negative social relationships. Compared to positive experiences, negative experiences have a greater impact on human behavior (see [6] for a review), suggesting that the presence of negative social relationships might influence bystanders’ proclivity to intervene. Negative social relationships indicate *social capital deprivation* [7; p. 404], a term used to describe an absent or weak social network, indicating a lack of positive social support. As applied to the bullying dynamic, bystanders who experience social capital deprivation through social rejection and engagement in multiple negative social relationships, might be inclined to replicate these relationships and engage in negative bystander behavior. Further, youth enmeshed in anti-social peer networks that provide anti-social capital (e.g., social capital from deviant sources such as delinquent friends), might feel pressure to mimic their friends’ behavior in order to preserve their social ties and thus might display negative bystander behavior. Little research has examined if and how the presence of social capital deprivation and anti-social capital impacts the likelihood of engaging in negative bystander behavior and the current study aims to fill this gap.

✉ Caroline B. R. Evans
careyrobertson@gmail.com; carey.evans@ku.edu

¹ Department of Social Welfare, University of Kansas, 1545 Lilac Ln, Lawrence, KS 66045, USA

Theoretical Framework: Social Capital, Social Capital Deprivation, and Anti-social Capital

The theory of social capital refers to the benefits gained from social relationships [8]. The social capital literature describes these relationships as prosocial and as offering four beneficial resources: access to *information* about opportunities, the potential to *influence* socially powerful individuals, *social credentials* (e.g., being socially connected to certain individuals provides access to resources), and *reinforcement* of identity and self-worth [9, 10]. A social network ripe with negative relationships (e.g., parent–child conflict, friend rejection) indicates disengagement from positive social capital resulting in *social capital deprivation* [7]. It is well established that social capital deprivation is associated with deviant behavior; positive relationships are essentially blocked, leaving youth to affiliate with anti-social peers. For example, poor parent–child relationships and low levels of parent support, teacher control (e.g., teachers breaking up fights), school attachment, and adolescent attachment to adult figures were associated with higher rates of adolescent delinquency, aggression, use of weapons, and fighting [11–13]. It follows that social capital deprivation might be associated with other deviant behaviors such as negative bystander behavior. Further, youth deprived of positive social capital might turn to anti-social sources for support or engage in deviant behavior in an effort to obtain anti-social capital.

Indeed, peer rejection (a form of social capital deprivation) is associated with increased delinquency [14] suggesting that rejected youth might seek out a deviant peer group in order to obtain anti-social capital. Although delinquent peers are anti-social, they provide social capital in the form of access to *information*, *social credentials*, and *reinforcement* of one's sense of self. Further, belonging to a group of delinquent peers provides comradery and sense of belonging. In this regard, connection to delinquent friends is a form of social capital, but one that fosters rule breaking and deviant behavior and is thus termed anti-social capital. In order to obtain entry into such a group, engaging in deviant and rule breaking behavior, such as aggression, bullying, and negative bystander behavior might be necessary. Using the theoretical framework of social capital, the current study examines how a lack of positive social capital in the form of social capital deprivation and anti-social capital are associated with negative bystander behavior.

Bystanders in the Bullying Dynamic

Bystanders are ubiquitous in the bullying dynamic and witness between 80 and 90 % of bullying episodes [15–18]. Between one-third and two-thirds of elementary,

middle, and high school students report having been a bystander to bullying [19, 20]. Although bystander behavior varies widely from defending the victim to reinforcing or assisting the bully to ignoring the situation [21], many bystanders engage in negative bystander behavior and support the bully.

In one study of Canadian youth in Grades 1 through 6, researchers found that bystanders assisted or reinforced the bully 32 % of the time, while bystanders defended the victim only 10 % [15]. Another study of Canadian youth in the same grades revealed that bystanders joined in the bullying 21 % of the time [22]. Studies using self- and peer-report surveys of bystander behavior mirror these results. In a sample of 573 Finnish students in sixth grade, 26 % reported reinforcing or assisting the bully and only 17 % defended the victim [23]. Assisting and reinforcing behavior is problematic, because it fuels rates of classroom bullying [24]. Given the relatively high rates of negative bystander behavior and the impact this behavior has on subsequent bullying, it is incumbent upon researchers to gain a more comprehensive understanding of the individual- and school-level characteristics that impact negative bystander behavior. Further, the aforementioned studies take place outside of the United States and focus on factors associated with positive and passive bystander behavior, to the exclusion of negative bystander behavior [e.g., 25–27].

Social Capital Deprivation and Anti-social Capital Factors Associated with Bystander Behavior

Social Capital Deprivation: Negative Friend Relationships

Friend rejection is a form of social capital deprivation that denotes unstable and negative friendships. In the current study, friend rejection was characterized by negative teasing, being picked on, and being treated in a disrespectful way by one's friends. Youth treated in this manner might be inclined to behave as a negative bystander for a few reasons. First, rejected youth in the current study clearly lack supportive friends. Perhaps siding with the bully is used to gain favor with the bully, with the ultimate hope of being accepted into the bully's social circle. Although often disliked, bullies sometimes possess social power and are viewed as popular by their classmates [28, 29]. Second, youth who are rejected by their friends are also likely rejected by the wider school or classroom social networks and these rejected youth are at risk of being victimized [30]. Perhaps socially rejected youth assist the bully as a form of self-protection; reinforcing the bullying of someone else decreases the likelihood of becoming the victim. Finally, negative bystander behavior might be used as a means of gaining power and social standing over the victim, thus increasing the bystanders' sense of self-worth.

According to social comparison theory, humans evaluate themselves in comparison to others [31] and negative bystander behavior relegates the victim to a lower social status than the bystander, allowing the bystander to evaluate him or herself in a comparatively positive light.

Along with friend rejection, other indicators of social capital deprivation, such as peer pressure, might also impact bystander behavior. Peer pressure refers to pressure exerted by peers to think or act in a specific manner [32] and typically refers to youth encouraging each other to break rules. In the current study, peer pressure exerted by friends to engage in negative behaviors was assessed and its presence thus represents unstable friend relationships. Both direct and indirect peer pressure to engage in aggression and delinquency are associated with increases in these deviant behaviors [33, 34]. Witnessing bystanders who support the bully serves as indirect peer pressure for other group members to also support the bully. Direct peer pressure in the form of verbal encouragement to join in the bullying might further encourage youth to behave as negative bystanders. Indeed, researchers found that perceiving one's friends to be unsupportive of defending behavior, resulted in decreased defense of victims [27]. It follows that peer pressure to assist the bully would be associated with increases in negative bystander behavior

Social Capital Deprivation: Bullying Victimization and General Victimization

Bullying is a distinct form of aggression defined by repetition, power imbalance, and intent to harm [35]. Bullying victimization and general victimization (absence of repetition and power imbalance) represent social capital deprivation as victims have few friends [36, 37], perceive low levels of peer support [38–40], and are thus cut off from accessing positive social capital in the form of prosocial peer relationships. Youth who are victimized might refrain from engaging in negative bystander behavior in an effort to prevent someone from feeling the humiliation engendered by victimization. Conversely, victims might engage in negative bystander behavior for the same reasons that rejected youth might behave as negative bystanders (i.e., to gain social status, avoid being victimized, and increase positive self-regard by relegating a peer to a lower social status). Additional research is needed to examine the relationship between bullying victimization, general victimization, and negative bystander behavior.

Social Capital Deprivation: Parent-Adolescent Conflict

Parent-adolescent conflict represents a form of social capital deprivation that inhibits the formation of a supportive

parent-adolescent relationship. The presence of parent-adolescent conflict is associated with negative outcomes such as increased aggression [41, 42]. Indeed, the family coercion theory of childhood aggression posits that negative interactions among family members, such as parent-adolescent conflict, exacerbate problem behaviors and aggression in youth [43, 44]. It follows that youth coming from families characterized by high levels of parent-adolescent conflict might be more likely to behave aggressively and display negative bystander behaviors. Further, youth constantly engaged in negative social interactions with their parents, might be inclined to replicate these interactions in the peer group by supporting the bully.

Social Capital Deprivation: Negative School Experiences and Characteristics

Many youth are exposed to school based violence and weapons [45] and thus view school as a dangerous and hostile place, making it difficult for them to engage and invest in school. Viewing school as dangerous represents a form of social capital deprivation that undoubtedly impacts bystander behavior. Youth who view school as dangerous likely feel unsafe and might engage in negative bystander behavior as a way of appearing tough and avoiding victimization. Further, viewing school as dangerous indicates the presence of violence and aggression within the school, suggesting that aggressive behavior, like negative bystander behavior, could be the norm.

Youth's view of school as safe or dangerous is impacted by school characteristics. For example, compared to smaller schools, larger schools have higher rates of violence [46], crime [47], vandalism [48], and bullying [49] and accordingly, youth often feel less safe in larger schools [50]. Bystanders in larger schools might therefore mimic the violence and aggression surrounding them and assist or reinforce the bully. Given that poverty at the individual level is associated with an increased risk for aggression [51], it follows that schools with many low income students might have high rates of aggression. Indeed, for middle schools, a high concentration of students receiving free or reduced priced lunch was associated with increased bullying and victimization [52]. It follows that bystanders in such schools might mimic this aggression and support the bully. Teacher turnover rate indicates the percentage of teachers who leave school each year. A high teacher turnover rate might indicate that a school provides a poor working environment ripe with problematic students. Indeed, one study found that a high teacher turnover rate was associated with increased student aggression [42]. Thus, a high teacher turnover rate might also be associated with increased aggression in the form negative bystander behavior. Further, a high teacher turnover results in social

capital deprivation because youth are unable to form and maintain strong bonds with their teachers. Finally, school suspension rates are an indicator of school environment and many states use them to gauge the level of school disruption [52]. High suspension rates indicate a high prevalence of aggressive, deviant, and rule breaking behavior and might be associated with increased negative bystander behavior.

Contributors to Social Capital Deprivation: Depression and Anxiety

Although poor mental health per se is not a form of social capital deprivation, symptoms of depression and anxiety impede social capital formation, putting youth in danger of experiencing social capital deprivation. Youth who are depressed and anxious are likely socially withdrawn and may be unappealing social companions and might also be particularly vulnerable to group influence. It follows that poor mental health might be associated with bystander responses to bullying. Irritability is a hallmark for both depression and anxiety, especially in children [53]. The increased irritability of depressed and anxious youth could fuel negative bystander behavior. Further, in children and adolescents, there is well established comorbidity between internalizing symptoms (i.e., depression, anxiety) and aggression [54]. Depressed and anxious youth are inclined to be aggressive, supporting the notion that poor mental health might be associated with negative bystander behavior.

Anti-social Capital: Delinquent Friends and Engagement in Bullying and Perpetration

Spending time with deviant, anti-social peers isolates youth from prosocial peers and adults, preventing the accrual of positive social capital. However, delinquent friends provide youth with anti-social capital as youth benefit from a feeling of comradery and belonging. Both delinquency and bullying are defined by a disregard for prosocial behavior and a lack of concern for others. It follows that there is a well-established link between both behaviors [55, 56]. Given the strong influence that peers have on adolescent behavior, especially delinquent and deviant behavior, it is not surprising that compared to youth who do not associate with delinquent peers, those who do are more likely to engage in delinquent acts [36, 57]. Indeed, deviant peers fuel and encourage each other's negative behaviors [36, 58]. Further, compared to non-aggressive youth, aggressive youth, such as those who engage in delinquency and bullying, show little concern for victims' suffering [59] and report that it is easier to perform aggressive acts [60]. This research suggests that delinquent youth disregard the

feelings and needs of their peers, engage in bullying others, and might be inclined to assist or reinforce the bully when witnessing a bullying situation. Thus, youth who are friends with delinquent youth might be inclined to mimic their friends' behavior and support the bully. Failure to mirror this behavior could result in group exclusion and a loss of anti-social capital.

In addition to engaging in negative bystander behavior to assimilate into delinquent friend groups, youth might also resort to bullying and perpetration as means of gaining and maintaining access to anti-social capital. Indeed, bullying and general perpetration are negative behaviors, but often result in acquisition of popularity and social power [28, 29]. Given their propensity towards aggression [61, 62], it is likely that youth who bully others would engage in negative bystander behavior. Negative bystander behavior is a natural extension of bullying behavior, but rather than instigating the bullying, youth simply join in on the bullying that someone else started. This argument extends to youth who behave aggressively towards their peers, but are not considered bullies (i.e., repetition and power imbalance are absent). Indeed, a retrospective study of 298 college students, found that compared to non-bullies, participants who had bullied others were significantly more likely to report having assisted or reinforced the bully when in the position of a bystander [63].

Hypothesis

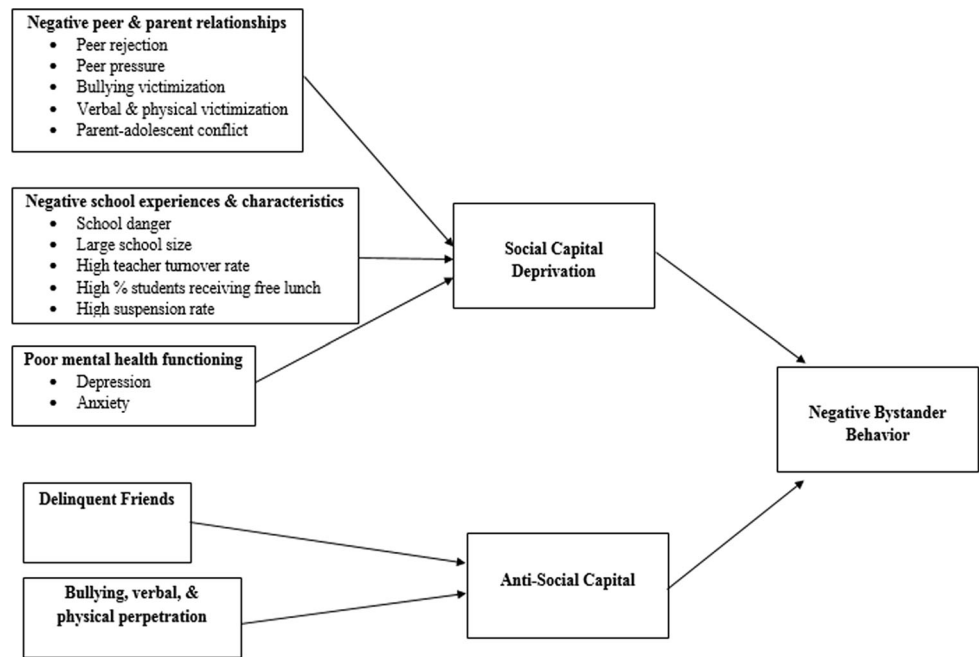
The thesis guiding the current study was that social capital deprivation from prosocial individuals and anti-social capital would be associated with an increased probability of reporting negative bystander behavior. Based on past research, it was hypothesized that being male, young, of minority status, and from a single parent household, as well as receiving free or reduced price lunch and low grades would be associated with an increased likelihood of engaging in negative bystander behavior. It was further hypothesized that social capital deprivation in the form of negative social relationships (e.g., peer rejection, parent-adolescent conflict), negative school experiences and characteristics (e.g., school danger, large school size), and poor mental health functioning (i.e., depression, anxiety) would be associated with an increased likelihood of engaging in negative bystander behavior. See Fig. 1.

Method

Current Study

The current research was funded by the United States Centers for Disease Control and Prevention through a

Fig. 1 Conceptual model of social capital deprivation and anti-social capital factors hypothesized to be associated with negative bystander behavior



cooperative agreement with the North Carolina Academic Center for Excellence in Youth Violence Prevention (NC-ACE). Data for the current study came from the Rural Adaptation Project (RAP), a 5-year longitudinal panel study of more than 7000 middle- and high-school students from 26 public middle schools and 12 public high schools in two rural, economically disadvantaged counties in North Carolina. In Year 1, a complete census in County 1 (all middle school students in Grades 6 through 8) was included in the sample and each year the new class of sixth graders was added to the analysis. Because County 2 was geographically bigger with a larger student population, a random sample of 40 % of middle school students were included and each year a new, random sample of 500 sixth graders was added. Students in both counties were tracked longitudinally as they moved through middle school and high school. Data for the current analysis were collected in Year 4 of the RAP study, therefore the current analysis was cross sectional.

Procedure

After obtaining approval from the Institutional Review Board from a major research university in the Southeastern United States, a nearly identical collection procedure was used in both counties. In accordance with school district policies, County 1 adopted the assessment as part of normal school procedures, while County 2 sent a letter home to all parents explaining the study. If parents from County 2 did not want their child(ren) to participate, they returned a letter requesting non-participation and their child(ren) were

removed from the study roster. In both counties, assessments were filled out in school computer labs closely monitored by research staff; although other students were present, the close monitoring maintained privacy. All participants were notified that participation was voluntary and that they were free to decline participation at any time without negative consequences. Student's assented to participate by reading and electronically signing an assent screen. No identifying information was collected and each participant had a unique identification number in order to maintain confidentiality. Surveys took 30–45 min to complete and participants received a \$5 gift card as an incentive.

Participants

The final analytic sample for the current study was comprised of all participants who participated in Year 4 of the RAP study ($N = 5752$). About half (51.03 %; $n = 2935$) were female. The racial/ethnic composition reflected the diversity of the surrounding community and 29.40 % ($n = 1691$) identified as Caucasian, 25.85 % ($n = 1487$) as African American, 24.32 % ($n = 1399$) as Native American, 12.70 % ($n = 730$) as mixed race or other, and 7.74 % ($n = 445$) as Latino. Participants' age ranged from 11 to 19 years old ($M = 14.42$; $SD = 1.78$) and students were in Grades 6 through 11, with about 15.00 % to 20.00 % in each grade. About two-thirds of the sample received free or reduced price lunch (76.95 %; $n = 4426$), the majority resided in a two parent households (81.99 %; $n = 4716$), and a little more than half (55.62 %; $n = 3199$)

reported receiving A's and B's while the remainder reported receiving C's, D's, and F's.

Measures

The School Success Profile (SSP [64]) is a 195-item youth self-report with 22 scales that measure perceptions and attitudes about school, friends, family, neighborhood, self, and health and well-being. The SSP has been administered to tens of thousands of students since its creation in 1993, and has well-documented reliability and validity [65]. The RAP project used a modified version of the SSP, the School Success Profile Plus (SSP+), which included 17 of the original SSP scales plus 12 additional scales. The current study used 10 of the original SSP scales included on the SSP+ and nine of the additional scales.

Dependent Variable: Negative Bystander Behavior

Negative bystander behavior was conceptualized as behavior that supported the bully's actions. Like the majority of the scales used in the SSP+, the negative bystander scale was a modified version of a longer scale that has been widely used in other studies and is currently being used to evaluate bullying behavior in 3000 youth in 40 Colorado counties [66] and has also been used in evaluations of Second Step [67, 68]. In the current study, the negative bystander scale was a modified version of scale from The Colorado Trust Bullying Prevention Initiative Student Survey [66]. Participants were provided with a prompt that asked: "When you see someone being bullied, how often do you behave in the following ways?" Items included: "I cheered when someone was beating up another student," "I joined in when students were teasing and being mean to certain students," and "I joined in when students told lies about another student" [66]. Each item was rated on a 4-point Likert scale (*Strongly Agree, Agree, Disagree, Strongly Disagree*) and Cronbach's alpha was .76 in the current sample ($M = 1.23, SD = 0.51$).

Independent Variables Associated with Negative Bystander Behavior

Demographics Demographic variables included gender and age. Race was coded as four dichotomous variables Hispanic, African American, American Indian, and Mixed Race/Other (Caucasian participants were the reference group). Receipt of free or reduced price lunch was used as a proxy for socioeconomic status (SES), family structure was dichotomized as a two parent household or another type of family situation, and school grades were dichotomized into high grades (receiving A's and B's) and low grades (receiving C's, D's, and F's).

Social Capital Deprivation: Negative Friend Relationships

Friend Rejection The degree to which participants felt rejected by their friends through teasing, being picked on, and being treated disrespectfully was measured with a three-item scale [64]. Example items included: "I am made fun of by my friends" and "I wish my friends would show me more respect." Each item was rated on a 3-point Likert scale (*Not Like Me, A Little Like Me, or A Lot Like Me*) and the Cronbach's alpha reliability was .80 in the current sample ($M = 1.23, SD = 0.44$).

Peer Pressure The degree to which participants felt their friends negatively pressured them was assessed with a five-item scale [64]. Example items included: "I let my friends talk me into doing things I really don't want to do" and "I tend to go along with the crowd." Each item was rated on a 3-point Likert Scale (*Not Like Me, A Little Like Me, or A Lot Like Me*) and Cronbach's alpha reliability was .83 in the current sample ($M = 1.23, SD = 0.39$).

Social Capital Deprivation: Victimization

Bullying Victimization Following the Youth Risk Behavior Surveillance System (YRBSS [69]), bullying victimization was measured by a dichotomous variable that asked: "During the past 12 months, have you ever been bullied on school property?" The response options were *Yes* or *No* ($M = 0.23, SD = 0.42$).

Physical Victimization Physical victimization was assessed with three-items from the Olweus Bully/Victim Questionnaire [70]. Although the items assessed forms of physical bullying, the word bullying was not used in this portion of the survey, thus this scale assessed general physical victimization and not physical bullying specifically. Example items included: "Someone at school pushed, shoved, or hit you" and "Someone at school stole my money or possessions or damaged something I own." Each item was rated on a 3-point Likert scale (*Not Like Me, A Little Like Me, or A Lot Like Me*) and the Cronbach's alpha reliability was .81 in the current sample ($M = 1.20, SD = 0.42$).

Verbal Victimization Verbal victimization was assessed with a five-item scale; two-items were from the Olweus Bully/Victim Questionnaire [70] and three-items were from the school hassles scale from the SSP [64]. Although items assess forms of verbal bullying, the word bullying was not used in this portion of the survey, thus it assessed general verbal victimization and not verbal bullying specifically. Example items included: "Someone at school yelled a racial slur or racial insult at you" and "Someone at

school ‘made fun of’ or ‘picked on’ you.” Each item was rated on a 3-point Likert subscale (*Not Like Me, A Little Like Me, or A Lot Like Me*) and the Cronbach’s alpha reliability was .82 in the current sample ($M = 1.27$, $SD = 0.42$).

Social Capital Deprivation: Parent-Adolescent Conflict

The parent-adolescent conflict scale measured the degree of conflict in the parent-adolescent relationship. Ten of the 20 items from the Conflict Behavior Questionnaire (CBQ [71]) were used. Example items included: “At least three times a week, my parent(s) and I get angry at each other” and “My parent(s) put me down.” The response for each item were *True* or *False* and the Cronbach’s alpha reliability was .85 in the current sample ($M = 2.43$, $SD = 2.78$).

Social Capital Deprivation: Negative School Experiences and Characteristics

School Danger Students’ perception of the level of danger present in their school was assessed with the 11-item School Danger scale [64]. Following the prompt “How often does each of the following happen at your school?” example items included: “Fights among students” and “Students carrying weapons.” Each item was rated on a 3-point Likert scale (*Does Not Happen, Happens Sometimes, Happens A Lot*) and Cronbach’s alpha reliability was .91 in the current sample ($M = 1.81$, $SD = 0.50$).

School Characteristics School characteristics were obtained from publically available administrative data and included: school size ($M = 477.21$, $SD = 238.97$), percentage of students receiving free or reduced price lunch ($M = 76.37$, $SD = 10.30$), teacher turnover rate ($M = 14.03$, $SD = 10.08$), and average number of short term (i.e., less than 10 days) suspensions per 100 students ($M = 34.75$, $SD = 21.47$).

Contributors to Social Capital Deprivation: Depression and Anxiety

Symptoms of Depression Symptoms of depression over the past six months were assessed with five items from the Patient Health Questionnaire (PHQ [72]). Items were reworded slightly for the current population. For example, the item “Trouble concentrating on things, such as reading the newspaper or watching television” was reworded to read: “I had trouble concentrating on things like school work, reading, or watching T.V.” Other example items included, “I felt down depressed, irritable, or hopeless” and “I felt tired and had little energy.” Items were rated on

a 3-point Likert scale (*Not Like Me, A Little Like Me, A Lot Like Me*) and Cronbach’s alpha reliability was .88 in the current sample ($M = 1.39$, $SD = 0.51$).

Symptoms of Anxiety Symptoms of anxiety over the past six months were assessed with three items from the Youth Self-Report (YSR [73]). Example items included: “I often feel fearful or anxious” and “I often feel nervous or tense.” Each item was rated on a 3-point Likert scale (*Not Like Me, A Little Like Me, A Lot Like Me*) and Cronbach’s alpha was .85 in the current sample ($M = 1.41$, $SD = 0.59$).

Anti-social Capital: Delinquent Friends and Engagement in Perpetration

Delinquent Friends The nine-item Delinquent Friends scale [64] assessed participants’ reports of the degree to which their friends engaged in delinquent behavior. Example items included: “I have friends who get in trouble with the police” and “I have friends who carry a weapon such as a knife, gun, or club.” Each item was rated on a 3-point Likert scale (*Not Like Me, A Little Like Me, or A Lot Like Me*) and the Cronbach’s alpha reliability was .92 in the current sample ($M = 1.37$, $SD = 0.47$).

Bullying Perpetration Engagement in bullying perpetration was assessed by a dichotomous variable that mirrored the dichotomous bullying victimization question used by the CDC in the YRBSS [69]. Participants were asked: “During the past 12 months have you bullied someone weaker than you?” The response options were *Yes* or *No* ($M = 0.08$, $SD = 0.28$).

Verbal Perpetration Verbal perpetration was assessed with three items from the Olweus Bully/Victim Questionnaire [70]. The word bullying was not used in this portion of the survey, thus this scale assessed general verbal perpetration and not verbal bullying specifically. Example items included: “I called another student mean names, made fun of, or teased him/her” and “I sent another student mean messages or pictures on his/her cell phone or over the internet.” Each item was rated on a 4-point Likert scale (*Never, Once, Sometimes, Often*) and Cronbach’s alpha reliability was .79 in the current sample ($M = 1.18$, $SD = 0.45$).

Physical Perpetration Physical perpetration was assessed with four items from the violent behavior measure [74]. Although these items assess forms of bullying behavior, the word bullying was not used, thus this scale assessed physical perpetration in general and not physical bullying specifically. Example items included: “I hit or kicked someone” and “I pushed or shoved someone.” Each item

was rated on a 4-point Likert scale (*Never, Once, Sometimes, Often*) and Cronbach's alpha reliability was .83 in the current sample ($M = 1.35$, $SD = 0.59$).

Data Analysis

The dependent variable was positively skewed with a skewness of 2.93 and a kurtosis of 12.59. A normal distribution of the disturbances is an assumption of linear regression models and when this assumption is violated, the convention in econometrics is to take the natural-logarithm transformation. For example, income is a typical dependent variable in economics and is often skewed, thus economists take the natural-logarithm transformation of income (i.e., $\ln(\text{income})$) to use as the dependent variable in linear modeling [75]. In accordance with this procedure, the natural-logarithm of the dependent variable was taken; however, this procedure did not sufficiently address the non-normal distribution. A histogram indicated that the natural log of the dependent variable remained positively skewed with a skewness of 1.05 and a kurtosis of 6.66. It was therefore not possible to analyze the dependent variable in its original metric and it was converted into ordinal levels and a binary logistic regression was run.

Almost three-fourths (73 %) of participants scored a 1 (*Never*) on the negative bystander scale. Given this highly skewed distribution, the scale was dichotomized. Values of 1 of y were coded as 0, indicating that a participant *Never* reported negative bystander behavior and values of 1.01–4 of y were coded as 1, indicating that a participant *Once, Sometimes, or Often* reported negative bystander behavior. In the case of a binary logistic regression model the number of ordinal levels (i.e., k) is 2 and the probability of reporting each ordinal category is expressed as a function of the independent variables and can be expressed with the following equations:

$$\Pr(y = 1) = \frac{\exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2)}{1 + \exp(\beta_0 + \beta_1 X_1 + \beta_2 X_2)} \quad \text{and}$$

$$\Pr(y = 0) = 1 - P(y = 1)$$

$$= \frac{1}{1 + \exp[-(\beta_0 + \beta_1 X_1 + \beta_2 X_2)]}$$

where β is a regression coefficient and X is an independent variable. A binary logistic regression with robust standard errors was run using the Stata commands *logistic* and *vce(robust)*. Robust standard errors allow for accurate model estimation in the presence of clustering. The low, medium, and high cut points for the independent variables were determined by the number of scale options (e.g., on 5-point scale a 1 was low, 2.5 was medium, and 5 was high).

The current study used multilevel data (i.e., individual students nested within 38 middle and high schools), thus, the presence of clustering effects is one methodological issue that needs to be addressed. Students from the same school might be more similar on an outcome measure compared to students from other schools. The presence of such clustering is problematic because it violates the independent-observation assumption embedded in a regression model and might lead to an inaccurate test for statistical significance [76]. Therefore, the intraclass correlation coefficient (ICC [77]) was used to test the clustering effects of the dependent variable in its original metric (i.e., as continuous variables). The ICC is defined by the following equation:

$$ICC = \frac{\sigma_u^2}{\sigma_u^2 + \sigma_e^2}$$

where σ_u^2 is the between-group variance, and σ_e^2 is the within-group variance. Results indicated that the ICC value for the negative bystander scale was .0242, showing that a little over 2 % of the variation in outcome variables lies between schools. Despite this low ICC, robust standard errors were still used to be conservative and correct for this small amount of clustering.

Missing data were addressed using multiple imputation. Only a small fraction of the data were missing for the dependent variable (3.7 %). Rates of missingness for the independent variables ranged from 0 to 11.3 %. According to Rubin [78], such modest patterns of missing data require between two and 10 imputations, thus 10 imputed data sets were created. The dependent variable and 26 independent variables collected in Year 4 were imputed along with predictors used only for imputation (the independent variables collected in Years 1 through 3).

Results

Overall, 73.20 % of the sample reported never behaving as a negative bystander and 26.80 % reported behaving as a negative bystander once, sometimes, or often. The negative bystander model with all independent variables fit the data as evidenced by a Chi square of 715.09 (with 26 degrees of freedom) that was statistically significant at a .001 level. An average student had a 76.02 % probability of reporting never behaving as a negative bystander and a 23.98 % probability of reporting a history of negative bystander behavior.

Demographic Variables

Compared with older adolescents, younger adolescents were significantly more likely to report negative bystander

behavior. At age 11, there was a 27.68 % probability of reporting negative bystander behavior which decreased to 19.57 % at age 19 ($p = .009$). Compared to girls, boys had a significantly higher probability of reporting negative bystander behavior (22.31 % for girls vs. 25.81 % for boys, $p = .009$). Compared to youth who received high grades (A's and B's), those who reported receiving low grades (C's, D's, and F's) had a significantly higher probability of reporting negative bystander behavior (21.81 % for high grades vs. 26.91 % for low grades, $p < .0001$). Compared to Caucasian students (17.77 %), African American (29.10 %, $p < .0001$), Native American (25.54 %, $p < .0001$), and mixed race or other youth (28.51 %, $p < .0001$), had a significantly higher probability of reporting negative bystander behavior. A Chi square likelihood ratio test yielded that, overall, race was significantly associated with negative bystander behavior: $X^2(4, N = 5752) = 10.89, p = .03$.

Social Capital Deprivation: Negative Friend Relationships

Compared to youth who reported low levels of peer pressure, youth who reported high levels of peer pressure had a significantly higher probability of reporting negative bystander behavior (20.92 % for low vs. 54.53 % for high, $p < .0001$).

Social Capital Deprivation: Victimization

Compared to adolescents who endorsed low levels of verbal victimization, those who endorsed high levels of verbal victimization had a significantly higher probability of reporting negative bystander behavior (21.89 % for low vs. 40.21 % for high, $p = .002$).

Anti-social Capital: Delinquent Friends and Perpetration

Compared to youth whose friends engaged in minimal delinquency, youth whose friends engaged in a high degree of delinquency had a significantly higher probability of reporting negative bystander behavior (20.78 % for low vs. 41.40 % for high, $p < .0001$). Compared to youth who did not engage in bullying others, youth who reported bullying others had a significantly higher probability of reporting negative bystander behavior (22.91 % did not bully vs. 37.72 % did bully, $p < .0001$). Youth who reported high rates of physical and verbal perpetration had significantly higher probabilities of reporting negative bystander behavior compared to youth who engaged in low levels of physical perpetration (49.10 % for high vs. 19.91 % for

low, $p < .0001$) and verbal perpetration (44.13 % for high vs. 22.39 % for low, $p < .0001$). See Table 1 for results.

Discussion

The overarching hypothesis of the current study was that social capital deprivation (represented by negative social relationships and school characteristics) and anti-social capital (represented by delinquent friends, bullying, and perpetration) would be associated with an increased likelihood of engaging in negative bystander behavior. Overall, this hypothesis was partially supported.

Demographic Variables Associated with Negative Bystander Behavior

In line with our hypothesis and past research [23], compared to females, males had a significantly higher likelihood of reporting engagement in negative bystander behavior. Compared to females, males of all ages display more physical aggression and violence [79–82]. Negative bystander behavior involves acts of verbal or physical aggression, thus, it follows that adolescent boys would be more inclined than girls to engage in this form of behavior. Younger participants were significantly more likely to report negative bystander behavior compared to older participants. This finding suggests that as youth age, they become increasingly inclined to 'mind their own business' and avoid engaging in negative bystander behavior. In terms of race, compared to Caucasian youth, African American, Native American, and Mixed Race/Other youth were significantly more likely to engage in negative bystander behavior. Bullying victimization frequently centers on issues of race/ethnicity and racial minorities are often bullied due to their race [83]. It is possible that the African American, Mixed Race/Other, and Native American youth in the current sample witnessed high levels of race-based bullying of victims. Rather than defend someone from a different racial group, it is possible that youth chose to join in the bullying as a means of strengthening the power of their own racial group. Also in line with our hypothesis, compared to youth who received high grades, youth who reported low grades (C's, D's, and F's) were significantly more likely to report negative bystander behavior. Poor academic performance is often indicative of low school connectedness and is a risk factor for delinquency [84], suggesting that poor school performance might also be associated with increased aggression in the form of negative bystander behavior. This finding highlights the importance of supporting youth who are underperforming academically in order to foster their positive feelings about school and increase their school connectedness.

Table 1 Model predicted probabilities for negative bystander behavior

Variables	Sig	Never	Once sometimes often
All		0.7602	0.2398
Demographic variables			
Age (years)	.009		
11		0.7232	0.2768
12		0.7343	0.2657
13		0.7452	0.2548
14		0.7558	0.2442
15		0.7661	0.2339
16		0.7661	0.2239
17		0.7858	0.2142
18		0.7952	0.2048
19		0.8043	0.1957
Gender	.009		
Female		0.7769	0.2231
Male		0.7419	0.2581
Free/reduced lunch			
Yes		0.7547	0.2453
No		0.7777	0.2222
Grades	<.0001		
A's and B's		0.7819	0.2181
C's, D's, and F's		0.7301	0.2691
Race	.03		
Caucasian (reference group)		0.8223	0.1777
African American	<.0001	0.7090	0.2910
Latino		0.7758	0.2242
Mixed/other	<.0001	0.7149	0.2851
Native American	<.0001	0.7446	0.2554
Living arrangement			
Two-parent family		0.7591	0.2409
Other type of family		0.7652	0.2348
Social capital deprivation: negative friend relationships			
Friend rejection			
Low		0.7530	0.2470
Medium		0.7834	0.2165
High		0.8111	0.1889
Peer pressure	<.0001		
Low		0.7908	0.2092
Medium		0.6397	0.3603
High		0.4547	0.5453
Social capital deprivation: bullying and general victimization			
Bullying victimization			
Yes		0.7710	0.2290
No		0.7570	0.2430
Verbal victimization	.002		
Low		0.7811	0.2189
Medium		0.6973	0.3027
High		0.5979	0.4021
Physical victimization			
Low		0.7528	0.2472
Medium		0.7875	0.2125

Table 1 continued

Variables	Sig	Never	Once sometimes often
High		0.8184	0.1816
Social capital deprivation: parent-adolescent conflict			
Parent-adolescent conflict			
Low		0.7671	0.2329
Medium		0.7527	0.2473
High		0.7376	0.2624
Social capital deprivation: negative school experiences and characteristics			
School danger			
Low		0.7826	0.2174
Medium		0.7547	0.2453
High		0.7245	0.2755
School size			
Small (140)		0.7544	0.2456
Medium (570)		0.7617	0.2383
Large (1000)		0.7689	0.2311
% Receiving free/reduced lunch			
Low (60 %)		0.7714	0.2286
Medium (78 %)		0.7590	0.2410
High (95 %)		0.7469	0.2531
Teacher turnover			
Low (0 %)		0.7566	0.2434
Medium (25 %)		0.7629	0.2371
High (50 %)		0.7691	0.2309
Average # suspensions per 100 students			
Low (5)		0.7618	0.2382
Medium (43)		0.7597	0.2403
High (90)		0.7571	0.2429
Social capital deprivation: depression and anxiety			
Depression			
Low		0.7654	0.2346
Medium		0.7521	0.2479
High		0.7384	0.2616
Anxiety			
Low		0.7541	0.2459
Medium		0.7686	0.2314
High		0.7825	0.2175
Anti-social capital			
Delinquent friends			
	<.0001		
Low		0.7922	0.2078
Medium		0.6990	0.3010
High		0.5860	0.4140
Bullying perpetration			
	<.0001		
Yes		0.6228	0.3772
No		0.7709	0.2291
Verbal perpetration			
	<.0001		
Low		0.7761	0.2239
Medium		0.6769	0.3231
High		0.5587	0.4413

Table 1 continued

Variables	Sig	Never	Once sometimes often
Physical perpetration	<.0001		
Low		0.8009	0.1991
Medium		0.6712	0.3288
High		0.5090	0.4910

Each probability was chosen for one category of an independent variable of interest while all other independent variables were fixed at the sample mean level

Social Capital Deprivation and Anti-social Capital Factors Associated with Negative Bystander Behavior

In line with our hypothesis, compared to youth who reported low levels of peer pressure, youth who reported high levels of peer pressure were significantly more likely to report negative bystander behavior. This finding mirrors past research indicating that peer pressure to engage in aggression and delinquency resulted in increases in these anti-social behaviors [33, 34]. Friendships ripe with negative peer pressure are unstable and represent social capital deprivation. Human beings in general, and particularly adolescents, seek acceptance [85] and youth succumb to peer pressure as a way of maintaining group belonging and cohesion. Thus, if peers pressure youth to engage in negative bystander behavior, youth might comply in an effort to avoid being ostracized from the group. Standing up to peer pressure severs valuable social ties, resulting in isolation. Current findings suggest that social capital deprivation in the form of peer pressure fuels negative bystander behavior, highlighting the importance of creating interventions to help youth stand up to negative peer pressure.

Interestingly, the hypothesis that friend rejection would be associated with increased negative bystander behavior was not supported. The current measure of friend rejection assessed rejection in the form of negative teasing, being picked on, and being treated disrespectfully. Perhaps if a more traditional measure of rejection has been used (e.g., assessing how liked and disliked youth were and how many mutual friendships they had; [86, 87]), results would have been different. It is possible that in order to preserve their sense of self-worth, youth interpreted teasing and being picked on by friends as playful and not as a form of rejection and were thus not negatively impacted by the presence of this friend behavior.

It was hypothesized that youth who endorsed bullying victimization or general verbal or physical victimization would report higher rates of negative bystander behavior compared to youth who did not experience these harmful events. However, contrary to our hypothesis, bullying victimization was not significantly associated with negative

bystander behavior. Victims often feel lonely and excluded [88], have few friends [36, 37], and perceive low levels of peer support [38–40] all of which indicate social capital deprivation. Bullying others through negative bystander behavior can be used as a means of obtaining social status and attempting to rectify this social capital deprivation; however, in the current sample, victims of bullying did not appear to use negative bystander behavior as a means of gaining social capital as hypothesized. Perhaps firsthand knowledge of the pain engendered from victimization deterred victims from engaging in negative bystander behavior. Some past research suggests that, compared to non-victimized youth, victims were significantly more likely to act as prosocial bystanders and defend victims [23, 89]. In light of this finding and current findings, it is interesting and enigmatic that victims' inclination to protect other victims does not translate into a significantly decreased likelihood of negative bystander behavior. Bullying victims and non-victims had a relatively equal likelihood (23 and 24 % respectively) of endorsing negative bystander behavior, which indicates that relative to non-victimized youth, experiencing victimization did not decrease victim's proclivity to harm other victims. Although most victims do not engage in negative bystander behavior, a small percentage join the bully. This subgroup could consist of "bully-victims," a group that takes on the role of bully and victim and might be inclined towards aggressive behavior, such as negative bystander behavior.

Interestingly, compared to youth endorsing low rates of verbal victimization, youth who endorsed high rates of verbal victimization were significantly more likely to report negative bystander behavior. However, physical victimization was not significantly associated with negative bystander behavior. Verbal victimization is emotionally harmful and might engender anger and the desire for retribution that is then expressed through negative bystander behavior. Further, verbal victimization can be covert and teachers are less likely to intervene in episodes of verbal bullying compared to episodes of physical bullying [90], leaving verbal victims feeling alone and unsupported to a greater degree than victims of physical perpetration. Perhaps verbal victims therefore believe that

teachers will not intervene in bullying situations and support the bully with the knowledge that they will not be caught. Engaging in negative bystander behavior might also be a way for verbal victims to gain social status, avoid being victimized, and increase positive self-regard by relegating a peer to a lower social status. Because physical victimization is a more violent experience than verbal victimization, physical victims might be too afraid to engage in bullying dynamics for fear of becoming physically harmed.

In line with our hypothesis, compared to youth whose friends engaged in minimal rates of delinquency, youth who reported that their friends engaged in high rates of delinquent activity had a two-fold increase in the likelihood of reporting negative bystander behavior. The close connection between delinquency and bullying [55, 56] suggests that, compared to non-delinquent youth, delinquent adolescents might be more likely to be bullies or negative bystanders. Given that youth mimic peer behavior [36], it follows that, compared to youth whose friends do not engage in delinquent behaviors, youth with delinquent friends have a higher likelihood of reporting negative bystander behavior. Delinquent friends provide youth with anti-social capital, thus, youth are likely motivated to maintain these social ties and shape their behavior to conform with their delinquent friends' behavior to maintain group cohesion. Negative bystander behavior becomes a mechanism to maintain a source of anti-social capital.

In line with our hypothesis and past research [63], compared to non-bullies, youth who endorsed bullying others had a significantly higher likelihood of engaging in negative bystander behavior. Negative bystander behavior is an extension of bullying, but rather than initiating the bullying, youth join in on bullying that someone else started. The current finding suggests that youth who bully seek out opportunities to engage in bullying even if they have not started the bullying. Also in line with the hypothesis, both verbal and physical perpetration were significantly associated with an increased likelihood of reporting negative bystander behavior. The measures of verbal and physical perpetration assessed general verbal and physical aggressive perpetration, but did not refer specifically to bullying. However, both of these behaviors are forms of aggression, thus it follows that engaging in these aggressive acts would be associated with aggression in the form of negative bystander behavior. Current findings indicate that youth who engage in bullying and aggression consistently seek out opportunities to harm their peers, and join in even when they did not instigate the harm. Both bullying and aggression can also be viewed as mechanisms to acquire anti-social capital as youth who are aggressive and bully are often viewed as popular [28, 29]. Youth who bully and behave aggressively are often

embedded within social networks where this deviant behavior is the norm. Youth in these groups reinforce each other's negative behaviors and provide one another with anti-social capital, which fuels ongoing negative behavior.

Taken together, current findings highlight that youth involved in negative social dynamics with their peers are at an increased risk for involvement in negative bystander behavior. Youth enmeshed in anti-social relationships with delinquent friends are exposed to increased opportunities to engage in anti-social behavior, such as episodes of bullying, and might be pressured by their friends to join in as a negative bystander. Youth who endorse bullying others and behaving aggressively in interpersonal relationships engage in this aggressive behavior in bullying situations others have started. In this regard, aggressive youth fuel classroom rates of bullying by engaging in negative bystander behavior. Further, youth who are verbally victimized are at an increased risk of behaving as negative bystanders and turn on weaker peers in an effort to relegate someone else to a lower social status than themselves. Overall, findings point to the need to intervene immediately when youth are enmeshed in negative peer relationships.

Limitations

The positive contributions of the current study must be considered in light of the limitations. First, given the wide range of negative bystander responses to bullying, it would have been ideal to include additional items assessing other forms of negative bystander behavior such as physically attacking the victim or verbally encouraging the bully. Second, it would have been interesting to assess negative bystander responses to specific forms of bullying (e.g., physical, verbal) and different types of victims (e.g., gender, race). Third, although the three-item negative bystander scale is part of a larger scale that has been widely used, further research is needed to establish the validity of this scale. Fourth, although research staff closely monitored participants to maintain privacy and confidentiality, youth might have been affected by the presence of their peers. It would be ideal to have participants fill out the online survey in private rooms; a lack of time, space, and research staff made this impractical. Fifth, data were limited to youth self-reports; it would have been ideal to collect data from teachers and/or parents, however this was beyond the scope of the current study. Sixth, the current study was cross sectional because there was only one year of data on the negative bystander items; future longitudinal research in this area is needed. Finally, caution is warranted in generalizing current findings; the current study population accurately represented the areas in which data were collected, but generalizability to other populations is limited

given the rural, low income, racially/ethnically diverse sample.

Summary

The current study examined how variables assessing social capital deprivation and anti-social capital are associated with negative bystander behavior during bullying episodes. Social capital deprivation in the form of peer pressure and verbal victimization and anti-social capital in the form of delinquent friends, bullying perpetration, and verbal and physical perpetration were significantly associated with an increased likelihood of engaging in negative bystander behavior. Findings highlight the importance of offering social support to youth disengaged from positive sources of social capital. Disengagement from social capital leaves youth feeling isolated and alone and fuels their participation in negative social interactions such as negative bystander behavior. Disengaged youth seek out support from deviant sources and often use anti-social means, such as acting aggressively and bullying others, to develop anti-social capital. A key to decreasing bullying is eradicating support for bullying behavior by extinguishing negative bystander behavior. One means of accomplishing this goal is through bullying interventions that focus on fostering positive bystander behavior such as Bully Proofing Your School [91] and KiVa [92], however, ongoing work is needed to improve the outcomes of such interventions in the United States [93]. Along with the need for additional and improved bystander interventions, the current study highlights the importance of obtaining social support for disenfranchised youth as an important mechanism to decreasing negative bystander behavior.

Acknowledgments Funding for this research was provided through a cooperative agreement with the U.S. Centers for Disease Control and Prevention's National Center for Injury Prevention and Control (5 U01 CE001948-03).

References

1. Myers DG (2002) Social psychology. McGraw Hill, New York
2. Darley JM, Latane B (1968) Bystander intervention in emergencies: diffusion of responsibility. *J Personal Soc Psychol* 8:377–383
3. Howard AM, Landau S, Pryor JB (2013) Peer bystanders to bullying: Who wants to play with the victim? *J Abnorm Child Psychol* 42:265–276
4. Latane B, Darley JM (1968) Group inhibition of bystander intervention in emergencies. *J Personal Soc Psychol* 10:215–221
5. Greenwood JD (2004) The disappearance of the social in American social psychology. Cambridge University Press, New York
6. Taylor SE (1991) Asymmetrical effects of positive and negative events: the mobilization-minimization hypothesis. *Psychol Bull* 110:67–85
7. Ozbay O (2008) Does social capital deter youth from cheating, alcohol use, and violence in Turkey? *Brining torpil in. J Crim Justice* 36:403–415
8. Putnam RD (2000) *Bowling alone: the collapse and revival of American community*. Simon & Schuster, New York
9. Lin N (2001) *Social capital: a theory of social structure and action*. Cambridge University Press, New York
10. Lin N, Cook K, Burt RS (2001) *Social capital: theory and research*. Transaction Publishers, New Brunswick
11. McNulty TL, Bellair PE (2003) Explaining racial and ethnic differences in adolescent violence: structural disadvantage, family well-being, and social capital. *Justice Q* 20:1–31
12. Salmi V, Kivivuori J (2006) Association between social capital and juvenile crime: individual and structural factors. *Eur J Crim* 3:123–148
13. Wright DR, Fitzpatrick KM (2006) Social capital and adolescent violent behavior: correlates of fighting and weapon use among secondary school students. *Soc Forces* 84:1435–1453
14. Miller-Johnson S, Coie JD, Maumary-Gremaud A, Lochman J, Terry R (1999) Relationship between childhood peer rejection and aggression and adolescent delinquency severity and type among African American youth. *J Emot Behav Disord* 7:137–146
15. Atlas RS, Pepler DJ (1998) Observations of bullying in the classroom. *J Educ Res* 92:86–99
16. Craig WM, Pepler D, Atlas R (2000) Observations of bullying in the playground and in the classroom. *Sch Psychol Int* 21:22–36
17. Hawkins DL, Pepler DJ, Craig WM (2001) Naturalistic observations of peer interventions in bullying. *Soc Dev* 10:512–527
18. Kerzner S (2013) The crucial role of the “third” in bully/victim dynamics. *Psychoanal Inq* 33:116–123
19. Rivers I, Noret N (2010) Participant roles in bullying behavior and their association with thoughts on ending one's life. *Crisis* 31:143–148
20. Trach J, Hymel S, Waterhouse T, Neale K (2010) Bystander responses to school bullying: a cross-sectional investigation of grade and sex differences. *Can J Sch Psychol* 25:114–130
21. Poyhonen V, Juvonen J, Salmivalli C (2012) Standing up for the victim, siding with the bully of standing by? Bystander responses in bullying situations. *Soc Dev* 21:722–741
22. O'Connell P, Pepler D, Craig W (1999) Peer involvement in bullying: insights and challenges for intervention. *J Adolesc* 22:437–452
23. Salmivalli C, Lagerspetz K, Bjorkqvist K, Osterman K, Kaukialnen A (1996) Bullying as a group process: participant roles and their relations to social status within the group. *Aggress Behav* 22:1–15
24. Salmivalli C, Voeten M, Poskiparta E (2011) Bystanders matter: associations between Reinforcing, defending, and the frequency of bullying behavior in classrooms. *J Clin Child Adolesc* 40:668–676
25. Barchia K, Bussey K (2011) Predictors of student defenders of peer aggression victims: empathy and social cognitive factors. *Int J Behav Dev* 35:289–297
26. Barhight LR, Hubbard JA, Hyde CT (2013) Children's physiological and emotional reactions to witnessing bullying predict bystander intervention. *Child Dev* 84:375–390
27. Pozzoli T, Gini G (2010) Active defending and passive bystander behavior in bullying: the role of personal characteristics and perceived peer pressure. *J Abnorm Child Psychol* 38:815–827
28. Cillessen AHN, Mayeux L (2004) From censure to reinforcement: developmental changes in the association between aggression and social status. *Child Dev* 75:147–163
29. Prinstein MJ, Cillessen AHN (2003) Forms and functions of adolescent peer aggression associated with high levels of peer status. *Merrill Palmer Q* 49:310–342

30. Bierman KL (2004) Peer rejection: developmental processes and intervention strategies. Guilford Press, New York
31. Festinger L (1954) A theory of social comparison processes. *Hum Relat* 7:117–140
32. Clasen DR, Brown B (1985) The multidimensionality of peer pressure in adolescence. *J Youth Adolesc* 14:451–468
33. Padilla-Walker LM, Bean RA (2009) Negative and positive peer influence: relations to positive and negative behaviors for African American, European American, and Hispanic adolescents. *J Adolesc* 32:323–337
34. Sullivan C (2006) Early adolescent delinquency: assessing the role of childhood problems, family environment, and peer pressure. *Youth Violence Juv Justice* 4:291–313
35. Olweus D (1993) Bullying at school: what we know and what we can do. Blackwell, Malden
36. Bagwell CL, Schmidt ME (2011) Friendships in childhood and adolescence. The Guilford Press, New York
37. Scholte RHJ, Overbeek G, ten Brink G, Rommes E, de Kemp RAT, Goossens L et al (2008) The significance of reciprocal and unilateral friendships for peer victimization in adolescence. *J Youth Adolesc* 89:89–100
38. Demaray MK, Malecki CK (2003) Perceptions of the frequency and importance of social support by students classified as victims, bullies, and bully/victims in an urban middle school. *Sch Psychol Rev* 32:471–489
39. Furlong MJ, Chung LA, Bates M, Morrison RL (1995) Who are the victims of school violence? A comparison of student non-victims and multi-victims. *Educ Treat Child* 18:282–298
40. Holt MK, Espelage DL (2007) Perceived social support among bullies, victims, and bully–victims. *J Youth Adolesc* 36:984–994
41. Eichelsheim VI, Buist KL, Dekovic M, Wissink IB, Frijns T, van Lier PAC et al (2010) Associations among the parent-adolescent relationship, aggression and delinquency in different ethnic groups: a replication across two Dutch samples. *Soc Psychiatry Psychiatr Epidemiol* 45:293–300
42. Smokowski PR, Cotter KL, Robertson CIB, Guo S (2013) Anxiety and aggression in rural youth: baseline results from the Rural Adaptation Project. *Child Psychiatry Hum Dev* 44:479–492
43. Long N, Edwards MC, Bellando J (2009) Parent-training interventions. In: Matson JL, Andrasik F, Matson ML (eds) *Treating childhood psychopathology and developmental disabilities*. Springer, New York, pp 79–106
44. Patterson GR (1982) *Coercive family process*. Castalia, Eugene
45. Centers for Disease Control and Prevention (2012) Understanding school violence: fact sheet. Retrieved from www.cdc.gov/violenceprevention/pdf/schoolviolence_factsheet-a.pdf
46. Ferris JS, West EG (2004) Economies of scale, school violence, and the optimal size of schools. *Appl Econ* 36:1677–1684
47. Chen G (2008) Communities, students, schools, and school crime: a confirmatory study of crime in U.S. high schools. *Urban Educ* 43:301–318
48. Walker HM, Gresham FM (1997) Making schools safer and violence free. *Interv Sch Clin* 32:199–204
49. Bowes L, Arseneault L, Maughan B, Taylor A, Caspi A, Moffitt T (2009) School, neighborhood, and family factors are associated with children's bullying involvement: a nationally representative longitudinal study. *J Am Acad Child Adolesc Psychiatry* 48:545–553
50. Lleras C (2008) Hostile school climates: explaining differential risk of student exposure to disruptive learning environments in high school. *J Sch Violence* 7:105–135
51. McLeod JD, Shanahan MJ (1993) Poverty, parenting, and children's mental health. *Am Social Rev* 58:351–366
52. Bradshaw CP, Sawyer AL, O'Brennan LM (2009) A social disorganization perspective on bullying related attitudes and behaviors: the influence of school context. *Am J Commun Psychol* 43:204–220
53. American Psychiatric Association (2013) *Diagnostic and statistical manual of mental disorders*, 5th edn. Author, Washington, DC
54. Weiss B, Cantron T (1994) Specificity of the comorbidity of aggression and depression in children. *J Abnorm Child Psychol* 22:389–401
55. Bender D, Losel F (2011) Bullying at school as a predictor of delinquency, violence and other anti-social behaviour in adulthood. *Crim Behav Ment Health* 21:99–106
56. Tfofi MM, Farrington DP, Losel F, Loeber R (2011) The predictive efficiency of school bullying versus later offending: a systematic/meta-analytic review of longitudinal studies. *Crim Behav Ment Health* 21:80–89
57. Haynie DL (2002) Friendship networks and delinquency: the relative nature of peer delinquency. *J Quant Criminol* 18:99–134
58. Bagwell CL, Coie JD (2004) The best friendships of aggressive boys: relationship quality, conflict management, and rule-breaking behavior. *J Exp Child Psychol* 88:5–24
59. Boldizar JP, Perry DG, Perry LC (1989) Outcome values and aggression. *Child Dev* 60:571–579
60. Perry DG, Perry LC, Rasmussen P (1986) Cognitive social learning mediators of aggression. *Child Dev* 57:700–711
61. Menesini E, Modena M, Tani F (2009) Bullying and victimization in adolescence: concurrent and stable roles and psychological health symptoms. *J Genet Psychol* 170:115–133
62. Salmivalli C, Nieminen E (2002) Proactive and reactive aggression among school bullies, victims, and bully–victims. *Aggress Behav* 28:30–44
63. Oh I, Hazler RJ (2009) Contributions of personal and situational factors to bystanders' reactions to school bullying. *Sch Psychol Int* 30:291–310
64. Bowen GL, Richman JM (2008) *The school success profile*. University of North Carolina, Chapel Hill
65. Bowen GL, Rose RA, Bowen NK (2005) The reliability and validity of the school success profile. Xlibris, Philadelphia
66. Colorado Trust (2014) The Colorado trust bullying prevention initiative student survey. Retrieved from http://www.coloradostrust.org/attachments/0002/1691/BPI_Student_Survey_no-copyright.pdf
67. Brown EC, Low S, Smith BH, Haggerty KP (2011) Outcomes from a school-randomized controlled trial of steps to respect: a bullying prevention program. *Sch Psychol Rev* 40:423–443
68. Low S, Van Ryzin MJ, Brown EC, Smith BH, Haggerty KP (2014) Engagement matters: lessons from assessing classroom implementation of steps to respect: a bullying prevention program over a one-year period. *Prev Sci* 15:165–176
69. Centers for Disease Control and Prevention (2014) Youth risk behavior survey. Retrieved from http://www.cdc.gov/healthyyouth/yrbs/questionnaire_rationale.htm
70. Solberg ME, Olweus D (2003) Prevalence estimation of school bullying with the Olweus Bully/Victim Questionnaire. *Aggress Behav* 29:239–268
71. Prinz RJ, Foster S, Kent RN, O'Leary KD (1979) Multivariate assessment of conflict in distressed and nondistressed mother-adolescent dyads. *J Appl Behav Anal* 12:691–700
72. Kroenke K, Spitzer RL (2002) The PHQ-9: a new depression and diagnostic severity measure. *Psychiatr Ann* 32:509–521
73. Achenbach TM, Rescorla LA (2001) *Manual for ASEBA school-age forms and profiles*. University of Vermont Research Center for Children, Youth & Families, Burlington
74. Dahlberg LL, Toal SB, Swahn M, Behrens CB (2005) *Measuring violence-related attitudes, behaviors, and influences among youths: a compendium of assessment tools*, 2nd edn. Centers for

- Disease Control and Prevention, National Center for Injury Prevention and Control, Atlanta
75. Greene WH (2003) *Econometric analysis*, 5th edn. Prentice Hall, Upper Saddle River
 76. Bickel R (2007) *Multilevel analysis for applied research: It's just regression!*. Guilford Press, New York
 77. Raudenbush SW, Bryk AS (2002) *Hierarchical linear models: applications and data analysis methods*. Sage, Thousand Oaks
 78. Rubin DB (1987) *Multiple imputation for nonresponse in surveys*. Wiley, Hoboken
 79. Peterson D, Esbensen F, Taylor TJ, Freng A (2007) Youth violence in context: the roles of sex, race, and community in offending. *Youth Violence Juv Justice* 5:385–410
 80. Frisell T, Pawitan Y, Langstrom N, Lichtenstein P (2012) Heritability, assertive mating, and gender differences in violent crime: results from a total population sample using twin, adoption, and sibling models. *Behav Genet* 42:3–18
 81. Topitzes J, Mersky JP, Reynolds AJ (2012) From childhood maltreatment to violent offending: an examination of mixed-gender and gender-specific models. *J Interpers Violence* 27:2322–2347
 82. Zheng Y, Cleveland HH (2013) Identifying gender-specific developmental trajectories of nonviolent and violent delinquency from adolescence to young adulthood. *J Adolesc* 36:371–381
 83. Verkuyten M, Thijs J (2006) Ethnic discrimination and global self-worth in early adolescents: the mediating role of ethnic self-esteem. *Int J Behav Dev* 30:107–116
 84. Maguin E, Loeber R (1996) Academic performance and delinquency. *Crim Justice* 20:145–264
 85. Baumeister RF, Leary MR (1995) The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychol Bull* 117:497–529
 86. Parker JG, Asher SR (1993) Friendship and friendship quality in middle childhood: links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Dev Psychol* 29:611–621
 87. Rose AJ (2002) Co-rumination in the friendships of girls and boys. *Child Dev* 73:1830–1843
 88. Kvarme LG, Helseth S, Saeteren B, Natvig GK (2010) School children's experience of being bullied-and how they envisage their dream day. *Scan J Caring Sci* 24:791–798
 89. Pozzoli T, Ang RP, Gini G (2012) Bystanders' reactions to bullying: a cross-cultural analysis of personal correlates among Italian and Singaporean students. *Soc Dev* 21:686–703
 90. Glover D, Gough G, Johnson M, Cartwright N (2000) Bullying in 25 secondary schools: incidence, impact, and intervention. *Educ Res* 42:141–156
 91. Bonds M, Stoker S (2000) *Bullying proofing your school: a comprehensive approach for middle schools*. Sopris West, Longmont
 92. Karna A, Voeten M, Little TD, Poskiparta E, Alanen E, Salmivalli C (2011) Going to scale: a nonrandomized nationwide trial of the KiVa antibullying program for grades 1–9. *J Consult Clin Psychol* 79:796–805
 93. Evans CBR, Fraser MW, Cotter KL (2014) The effectiveness of school-based bullying prevention programs: a systematic review. *Aggress Violence Behav* 19:532–544